DOMESTIC ENGINEERING

A Weekly Record of Progress in Plumbing, Heating, Ventilation and all Matters Pertaining to Domestic Sanitation

Whole No. 1345 CHICAGO, SEPTEMBER 21, 1918 Vol. 84, No. 12

Only those are fit to live, who do not fear to die; and none are fit to die who have shrunk from the joy of life and the duty of life. Both life and death are parts of the same great adventure. Never yet was worthy adventure worthily carried through by the man who put his personal safety first.

—Theodore Roosevelt.

MARKING TIME WITH THE GOVERNMENT IN THE TRADE EXTENSION MOVEMENT.

THE recent recommendation of the finance body of the Trade Extension Committee that the sales promotion movement should be slowed down and that activity should be dedicated to the support of the nation and devoted to educational advancement along business lines during the war, is doubtless the best course that can be pursued.

Contractors in the building trades and manufacturers of supplies are now appreciating the necessity of co-operating in every way in the conservation of labor and materials in order that vigorous prosecution of the war may not be restricted.

It is well to bear distinctly in mind that the Government's policy, in requesting the practice of conservation and in classifying essential and non-essential industries, is not aimed at hampering needed business activity. Its aim is to effectually smash the insidious Hunnish serpent and destroy its poisonous fangs, and to do it with all possible speed. Victory in this gigantic effort will surely redound to the advantage of business as a whole.

Other industries, that were formerly active in sales promotion and trade extension, have slackened their pace, yielding to Governmental wishes. They have formulated plans to "carry on" in a moderate and conservative way along essential lines, until America shall have settled her score with the maddened leaders of Hunnish autocracy.

Many industries are realizing that sacrifice and self-denial must now take the place of personal ambition and enterprise, and that all must be co-ordinated to meet the demands of the American Army and Naval efficiency.

The importance of being patient and marking time with the Government, under the stress of abnormal conditions, is clearly evident, and we may rest assured that co-operation will speed the winning of the war.

Educational business propaganda, in preparation for a great revival of industry after the war, is now becoming more and more the function of trade extension in large industries.

Appreciating the full import of this fact, and looking the business situation squarely and fairly in the face, the finance body of the Trade Extension Committee felt that it would be wiser and more patriotic to proceed slowly and modestly with the movement and make the war-policy of the committee one of education rather than creation.

The proposed policy of deferring an extensive sales promotion movement, in view of the national necessity of conserving labor and materials, and preparing for the bigger business offensive after the war, will meet with the approval of all patriotic men in the plumbing and heating trades.

The splendid results already accomplished by the Trade Extension Committee are recognized by the organized bodies representing these crafts. That the committee must be kept alive and breathing until its work, so ably commenced, can be resumed on a large and unrestricted scale, is unquestionably a most desirable thing.

Carrying forward some of the excellent educational details of the trade extension movement is wise and essential at this time. This propaganda for better business methods will prepare the plumbing and heating trades for the reconstruction period, which will follow the cessation of hostilities.

The Trade Extension Committee will then be free to perform an important service in active sales promotion, which will accomplish results in bigger business development, and in a degree which will more than recompense the plumbing and heating trades for their sacrifices and patriotic co-operation under trying war-time conditions.

MODERN PLUMBING *in a* SCHOOL *in* WISCONSIN

This Article Describes and Illustrates Many Interesting Points in Modern Plumbing, Including Sink and Catch Basin Connections and Temperature Control of Showers

By Robert J. Gordon

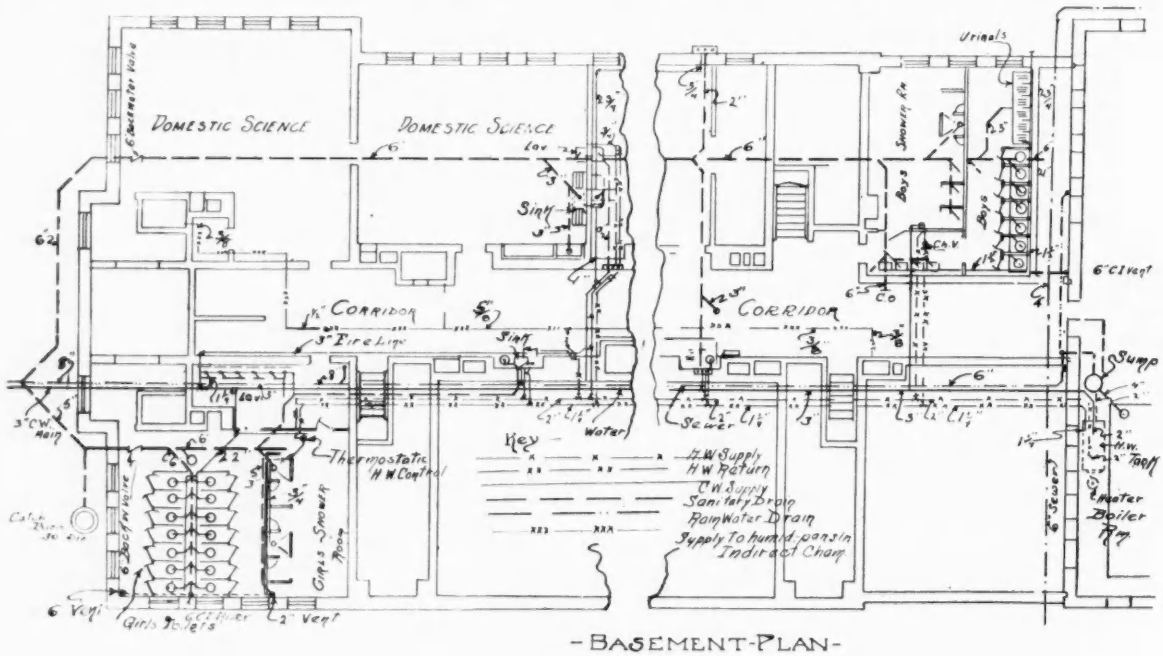
THE addition to the Longfellow School under erection, and probably completed now, in the city of Sheboygan, Wis., will have an excellent modern plumbing system throughout.

Fig. 1 is a plan view of the plumbing in the basement of the addition, a portion of the center of basement, which contains no important fixtures, being omitted.

half from the girls' half of the basement. Each department, therefore, has its own privacy.

There are two bubbling fountains in basement corridors where shown. The Domestic Science and Manual Training rooms are provided with sinks and lavatories where shown.

In the boiler room, at the lower right hand corner



-BASEMENT-PLAN-

Fig. 1.

In the basement are the girls' toilet room, one compartment being for closets, one for lavatories, and one for showers.

At the opposite corner of the basement of the addition is located the boys' toilet room. This also comprises three compartments, one for closets and urinals, one for lavatories, and one for showers. A solid wall across the corridor, but not shown here, separates the boys'

of Fig. 1, is a 365-gallon hot water tank, storage tank for showers, lavatories and sinks.

The water supply enters basement by the 3-inch cast iron water main shown at left hand of cut. The sewage leaves building through an 8-inch pipe to sewer, at same place.

The house drains, which are indicated on drawing as per key, run under the basement floors. The water pipes

run along basement ceiling, being also shown on plan as per key.

The heating boiler is set in a pit. It heats the entire building, also the hot water tank, during the winter. A coal-burning, tank heater furnishes hot water at other times.

Among the interesting features of this installation are the boys' and girls' showers in basement. There are two showers in the girls' toilet room, and four showers in the boys' toilet room. The hot water to these showers goes through automatic regulators, which is a positive protection against scalding.

The first floor contains two class rooms, a gymnasium, a kindergarten room, library, wardrobe, a boys' toilet room, a girls' toilet room, two sinks and two bubbling fountains in corridors.

On the second floor are several class rooms, recitation rooms, etc., and one girls' toilet room containing 8 water closets and 3 lavatories. In the corridor are two sinks and two bubbling fountains.

That in a general way describes the plumbing in the building.

The following resume—from the specifications—explains the kind and quality of the materials and workmanship.

The sewer line from building to sewer is salt-glazed, vitrified, hub joint sewer pipe, being laid to a grade not less than ¼ inch to the running foot. Sewer pipe joints are made with best quality Portland cement. The bells are sunk below general level of trenches to admit of solid bearing for pipes, as shown in Fig. 2.

All sewers and house drains inside of building are extra heavy, coated cast iron pipe.

The downspouts inside of building are cast iron, "Holt" roof connections being used at roofs.

There is a subsoil drainage system employed to insure a perfectly dry basement. The subsoil drains discharge into a catch basin outside of building. This is built by the plumbing contractor, being made of 30-inch diameter, best quality, salt-glazed, vitrified sewer pipe with bottom foundation of concrete, 6 inches thick and extending 6 inches beyond face of sewer pipe, substantially as shown in Fig. 3.

This is an excellent basin. The subsoil water flows into it by gravity, the mouths of the subsoil pipes being

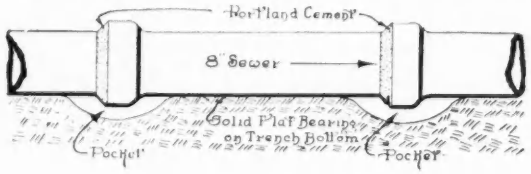


Fig. 2.

open for inspection and cleaning-out purposes at all times.

The silt pocket at bottom of catch basin will catch any silt or sand which may seep through into the subsoil lines with the water.

By the trapped arrangement of the outlet it is evident that no sewer gas can get into subsoil drains, and thence to building. In fact, the subsoil drainage system is made accessible in a most effective way. Should it ever be necessary to check-valve the subsoil drains against back water from sewers, it can easily be done at any time by any plumber without digging up, or breaking into the floors or walls of building. It may be done effectively as shown in Fig. 4.

A 16-oz., cold rolled, sheet copper band, A, is made to fit over the subsoil tile pipe, which projects inside the catch basin, says, 3 inches. It is made large enough to allow a space of, say, ⅜ to ½ inch for calking it to the tile pipe from the inside with oakum. An oakum calking will hold it solid enough against any sewer flood. The face of copper band or sleeve is stiffened by edging over.

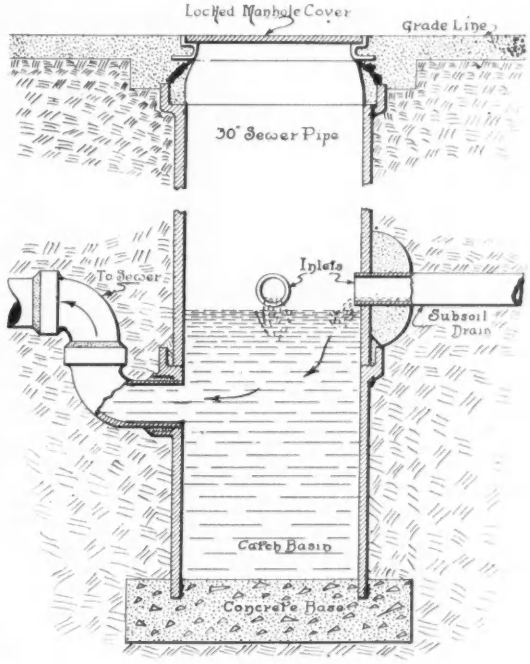


Fig. 3.

A 16-oz., cold rolled, copper flapper is hinged over mouth of flapper so as to open freely with the flow of subsoil water, yet close tightly when back pressure from sewer comes on it.

Such checks, however, are not necessary in districts where the sewers do not back up in the house drains.

A sump basin is built in boiler room of the same material as Fig. 3. This is 8 feet deep. The distance between lowest inlet and bottom is three feet or more.

In this sump is placed a No. 211 L. C. bilge pump, having a capacity of 25 gallons per minute, against a head of 12 feet. The pump has a 1¼-inch discharge pipe connected into a downspout, 2 feet above floor, and provided with a swinging check valve.

The pump and motor are mounted on a cast iron plate, the motor being ¼ h. p., 220 volt, 2 phase, 60 cycle alternating current.

An automatic switch and float will turn on or shut off current to pump as the sump may require.

Fig. 5 gives an idea of how this combination may be inspected to successfully keep down the subsoil water and insure a dry basement. The pump, if of the centrifugal type, is submerged in water of sump. The subsoil water, drips, drains, blow offs, etc., discharge into sump above the water line. Pump is set over sump, where it can be quickly oiled, cleaned or repaired. Its switch may be alongside and may be operated direct by rod or chain, communicating with ball float in sump. The check on pump discharge prevents roof water from getting down into sump.

The water main extends as class "C" cast iron water

pipe to a point 12 inches above floor, where it terminates in a flanged fitting and cast iron 3-inch flanged "Eddy" gate valve. Wrought pipe is run from this point.

One of the interesting features of this installation is the excellent means for hot water service.

In the boiler room is located a horizontal, extra heavy steel tank, 36 inches in diameter by 7 feet in length, containing 365 gallons. This tank is supported on a stand, made of 2-inch pipe. It is provided with a 1½ or 2-inch

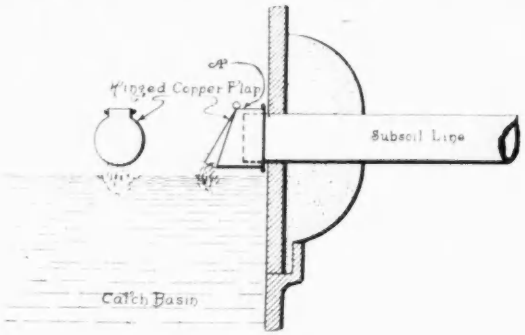


Fig. 4.

four pipe coil inside, to heat the water, from the steam boiler during the heating season.

Top of tank is provided with a V. & K. pressure relief valve, set for 100 pounds. This valve is placed on top of hot water outlet from tank.

The cold water supply is a 2-inch line with 1½-inch check near tank. Bottom of tank has 1½-inch drain discharging to sewer.

Alongside tank is set a No. 3 "Triumph" hot water heater, with magazine hood, having a capacity of 350 gallons per hour.

It is provided with a "Powers" damper attached to base, etc., in an approved manner.

The hot water tank has a "Powers" No. 12 tank regulator with diaphragm valve or steam supply to coil. The weighted lever is connected by chains and pulleys to dampers of tank heater, to regulate its fire according to temperature of water tank.

The regulators are "hooked up" so that they will control the hot water system from either tank heater or steam boiler service. Circulation piping between tank and tank heater is 2-inch.

A 2-inch hot water main is taken off top of hot water tank, runs under basement ceiling with supplies branching off to the different fixtures on a circulation system in the ordinary manner.

All supply pipes inside of building are of galvanized wrought iron with galvanized malleable beaded fittings.

The supplies to all lavatories and sinks are provided with concealed air chambers, not less than 12 inches long.

All branches on supply lines and risers are provided with "Eddy" brass gate valves, for sizes ¾-inch to 2½-inch. All valves larger than 2½-inch are "Eddy" iron body valves, bronze mounted. All under ¾-inch are compression stop cocks, with tee handle. There are two fire stand pipes in building, each fitted with a "Howard" swinging hose rack with white enamel finish, having 100 feet of 1½-inch linen hose. The valve is polished brass with wheel handle at each hose rack. All valves, stops, etc., are tagged with brass tags numbered, and a diagram is furnished the janitor so he may know what valves to close in event of trouble.

The closets are of the siphon-jet type with automatic seat-flushing action. The seat-action valves operate in connection with closed, steel, pneumatic closet tanks. Where tanks are exposed, as in upper floors, they are white enamel painted and provided with N. P. flush pipes to closets. "Enfanta," or juvenile, closets are used for kindergarten toilet rooms, being provided with seat-action, pneumatic tank flushing arrangements.

The urinals are of the ventilated slate urinal type, at 20-inch centers, having buff gutters of porcelain. The kindergarten boys' urinal is a "Kohler" 60 inches long, enameled iron, one-piece, roll rim trough, with perforated flush pipe and brass bee-hive strainer.

The four boys' showers are N. P., with 4-inch cast brass heads and removable faces. They have adjustable ball joint and ¾-inch goose neck supply from shower head to wall.

The two girls' showers each have a 20-inch perforated ring instead of a shower head.

The hot water supply to showers in each room is taken through the thermostatic hot water line control valves previously mentioned. The sinks are substantial one-piece, enameled iron goods. The drinking fountains are all of the bubbler type. The lavatories are enameled iron. The plumbing contractor placed in each indirect steam heating stack one 16x16x10 porcelain humidifying

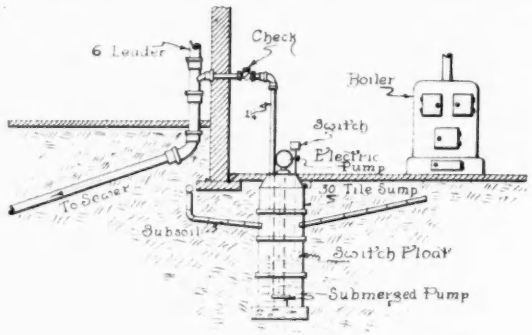


Fig. 5.

pan with bottom supply connected to an expansion tank. The expansion tank, feeding humidifying pans, is supplied from hot water line. The overflow runs into basement sink. The "Ideal" automatic expansion tank is used for this work. In addition to all the above the plumbing contractors equipped all toilet rooms with a complete selection of very appropriate soap cups, towel rails, mirrors, etc.

Altogether the installation is a very creditable piece of sanitary engineering reflecting much credit on both architect and plumbing contractors. The architect for the addition was Rudolph Jahn, Sheboygan, Wis. The plumbing contractor was the popular and progressive firm of Louis Sonntag & Son of the same city.

Don't think about the money. That will all come back to you with interest. Think about the brave young Americans who are fighting and suffering and dying "over there" for Liberty.

Cheering Him Up.

Sergeant-Instructor (to Cadet)—"Na, ye'll no mak' an officer. But it's just possible if the war keeps on a while an' ye prractice harrd—verra harrd—ye micht—*micht*, mind ye—begin to hae a glimmer that ye'll never ken the r-rudiments o' the wurrk!"—"Punch."

BETTER HEATING

This Article Emphasizes the Importance of Careful Installation of Modern Heating Systems in Residences and Homes, Calling Attention to Some Common Mistakes

By R. E. Dockham

IT is not my purpose in this article to discuss the merits of the various forms of heating now upon the market, or to deal at length with any of their features. I intend merely to speak in a general way of some mistakes, which are commonly found in the ordinary steam and hot water heating plants throughout the country, in regular house or home heating installations, and to suggest a more painstaking course in dealing with our heating problems; in short, to urge the use to an increasing degree of that most necessary element of all good heating—brains.

This matter may seem at first thought trivial, but when one realizes that there are hundreds of homes to one office or factory building the question of better heating, in houses or residences, immediately assumes something of its true proportion.

Of course, large heating contractors, to whom an installation of a heating plant of this size is not worth bothering with, will have no interest in this article. But even old-timers, who are still working by "rule o' thumb," much to their detriment, may glean a little good from my words. For I have seen some of their work done years ago and also of a recent date, and I wonder sometimes how they do it.

My hope for the most kindly reception, however, is from the younger men, who are coming along and to whom a few timely thoughts may prove helpful.

As the heating season proper is now upon us, and as an ounce of prevention is better than a pound of cure, let us try to correct some of our mistakes before they occur.

One of our first and worst mistakes is in our selection of the boiler, both in type and size. Don't smile at this, for I know men, who were in business before many of us younger chaps were born, and who are still making this mistake time and again, and are correcting it at their own expense.

For instance, here is a hot water heating plant to be installed, which requires 600 sq. ft. of direct radiation. What size boiler are you going to use? Just for illustration let's see.

I have before me, as I write, four catalogs of well known boiler manufacturers, the catalogs being current issues. And what do we find? Let us take a size of boiler, which we all use in our regular small heating practice, say, one with a round fire pot and a 21-inch grate.

A's boiler of this size is rated at 850 sq. ft.; B's at 950 sq. ft.; C's at 775 sq. ft., and D's at 650 sq. ft. Wouldn't some of you fellows use, on a plant of this size, B's boiler, rated at 950 sq. ft.? And wouldn't you hesitate a little about using D's boiler rated at 650 sq. ft.?

These things are rather demoralizing to consistent and uniform results in the final operations of heating systems, as completed products.

The "don't" in this case, as I see it, is this: Don't buy ratings, for it seems to be reasonable to suppose, that

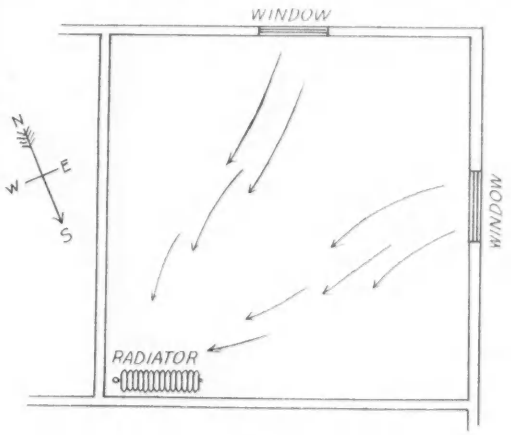


Fig. 1.

given fire pots of a stated size, and knowing that a pound of coal can produce only a certain amount of heat, when properly burned, that within certain reasonable limits, a pound of coal cannot, in the natural order of things, do more in the way of heating water, in B's heater than in D's, notwithstanding the fact that there is a difference of 300 sq. ft. in the rating between these two. You probably have your own method of getting or guessing at the size of boiler necessary to do the work properly, but for my part I have noticed that, when my boiler has about one square inch of grate surface to every square foot of radiation in the plant, including any exposed mains, trouble in this respect passes me by.

I am speaking, of course, of heating work that heats, when the good cold winter is with us, and heats with just the minimum effort that the busy man, who is in a hurry to get his morning train, can give it.

Is this way of selecting the boiler size new to you? If so, try it some time, and you'll probably find when winter comes, that this particular boiler will not require the attention of a sick child.

Regarding the type of boiler, I believe much can be said, many a heating contractor knows of cases, where a boiler of a certain make, which he installed in friend A's house, and through the satisfaction that A experienced, and his enthusiasm and rooting for the heating contractor and his boiler, he installed the same kind for

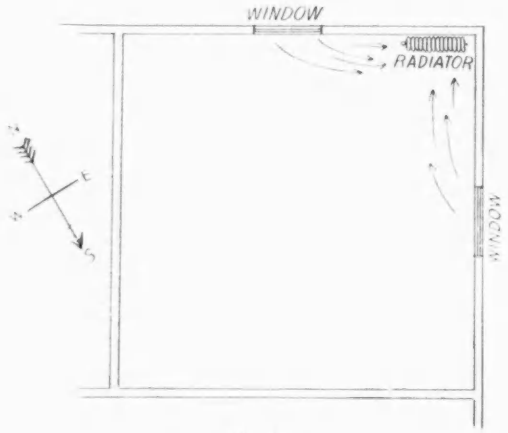


Fig. 2.

friend B, and it fell flat, and never gave the satisfaction that A's did.

This is not an unusual experience, as many heating men can testify. So I say give heed to the conditions, if we find that our prospective heating job has a good, clean chimney, high, no obstructions inside, no high buildings or trees sheltering or blanketing it, but a good chance for winter winds to hit it good and proper on all sides, why then let us use a boiler with a few intermediate sections over the fire pot, or one with a down draft or a staggered fire travel.

But, and I wish to emphasize this, if these conditions which make for good heating are only partly in evidence, and the general condition of draft is a little below the best, why then, I say, use a little judgment, when you pick out your heater and give your reputation for good heating a chance to live and flourish.

Again, think a little about what is available for fuel. Now here's my friend, Pepper, out in the country, who is going to have a steam heating plant, of some twenty radiators, installed, with a total of about 800 sq. ft. Let us look around a bit! He runs a farm, has a model dairy, and, what's this, an upright tubular boiler, which runs his bottle washer, cream separator, sterilizer and other appliances, and alongside of it is a neat pile of soft coal.

Just outside we see a good liberal-sized bin, full of the same fuel, and across the yard is a pile of wood, higher than we are, and running many feet down the field.

What of it? you ask. Well let us play Sherlock Holmes a little. Here is our friend, a long way from a city or town, which means it's some job for him to get coal of any description, but he's *got* to use soft coal under his power boiler any way. Again, he has acres of wood and plenty of men, which means that, for him at least, wood is a pretty cheap and convenient fuel, and in the natural order of things, friend Pepper is going from time to time, to think thus: "I wonder how soft coal will work in my heating boiler. I've got that on hand, and then again I wonder, if I could burn wood in it. I have wood enough and to spare."

Now here's where we will do a little wondering ourselves: In Blank's catalog, we find a sectional boiler with a grate 4½ ft. long and 18 inches wide, and we find that it is of a return flue type with a good large smokeway; this of course is for hard coal, but I just venture a guess that, when he comes to trying out his soft coal, he'll have no trouble, and then again when he tries his wood experiment and finds he can throw in a whole cord woodstick, without cutting it, he'll not only do the trick again, but he'll be pleased to know that he doesn't have to cut every blamed stick, which would be the case if we put in a *round* boiler.

Well, you just think it over a bit, and let us consider our next bad error, the radiator.

There is one right place and many wrong places for a radiator in every room, the problems of good heating being largely a question of controlling cold drafts or currents of air in the room.

Let us go back a few years. Did you ever notice in your old-time homes or pictures of homes, that the grand old fire place was always accompanied by the high back settle, and did you ever notice that this same old settle always had a solid back running from the floor up pretty high, never a slatted one?

Now then, just why? Only this, that when our forefathers sat with their long pipes in front of a good honest open fire and toasted, they were sitting directly in the path of a cold current of air coming from every door and window and traveling toward the fire, so they built the quaint old high back for a shield.

And just a few years later, perhaps in your mother's time, did you ever sit on the old carpet-covered hassock and listen, while she told you fairy tales? Did you ever wonder, what these hassocks were for, other than to trip over in the dark? Why, in those good days, when everybody used a stove, and the stove in every case was placed near an inside wall, there was the same draft to a less degree along the floor from the windows toward the stove. So these good forerunners of ours discovered that, by keeping their feet a few inches above the floor, they kept them out of this uncomfortable draft. Therefore we had the hassock.

From this we conclude that there is one right place and many wrong places for a radiator in every room.

Here is a case in modern days, which illustrates the point I am trying to make, and it is one, which the writer was called upon to rectify. Fig. 1 shows a steam radiator of standard make, 38 inches high, containing 35 sq. ft.

The room in question is a living room, 12 ft. by 12 ft. by 8 ft. 6 in., studded. It has a north-easterly exposure with two exposed sides, and it has two small-sized windows with a total of 29 sq. ft. of glass. Stepping into this room from one adjoining, the temperature would impress one as being comfortable, but fifteen minutes spent in it, sitting in certain locations, demonstrated the fact that the room was not one in which a person could live in cold weather. The owners were simply obliged to close this room in cold weather and use another room as a living room, which was annoying, since they had paid, as they said, "good money" to have their home heated.

Now, by any rule, known to our art, a room of this size and exposure, containing the before-mentioned amount of glass, should be well heated by a radiator of

(Continued on Page 457.)

LEGAL QUESTIONNAIRE

*Is a Person, Signing Check in Blank, Liable Even to an Innocent Purchaser for Value, if Check Is Stolen and Negotiated?—This Question Is Here Answered in a Most Careful Manner**

By "The Judge"

Person, Signing Check in Blank, Is Not Liable Even to an Innocent Purchaser for Value, If Check Is Stolen and Negotiated.

Editor "Domestic Engineering":—A check, which I cashed a few days ago, proves to have been a forgery in part, under the following circumstances. A person, whom my bookkeeper remembers having seen in the neighborhood, called at my store and asked me to cash a check for $31.50. The check was signed by a good customer of mine, and I recognized the signature. Later it was claimed that some person had taken a check from my customer's check book, which he had signed and left with his clerk in blank for the payment of certain bills while he was out of town.

The maker now asks me to pay the amount of this check, which was paid by his bank after I had deposited it in mine. Am I liable under these facts to the maker for $31.50? T. P. D.

Answer:—There are two possibilities in the case, which you present. One is that the signed check, left in blank to be filled out by an agent of the maker, your customer, was stolen from the agent; and the other is that the agent filled it out for purposes of his own or through carelessness. Your liability is different under these two sets of facts.

If the blank, signed check was stolen from your customer's agent, it is probable that you will have to pay the amount of the check, to the maker, your customer. In such case no negligence can be attributed to anybody, unless there was actual negligence. When the blank has been filled in by the thief, who stole the check, sheer forgery has been committed, in which the maker of the check is in no way involved, and he is, therefore, not bound to make good even to a bona fide holder without notice, such as you were in this case.

The general rule is that the delivery of a negotiable instrument, containing blanks which are intended to be filled, carries with it prima facie an implied authority to fill these blanks in such a way, as apparently is in conformity with the purpose and character of the instrument. Generally, while a payee or holder, with notice of what has been wrongfully done, cannot recover, a purchaser in good faith without notice may recover from the maker, although the authority of the person, who has been intrusted with the check, has exceeded his authority and has filled in the blanks in such a manner as to amount to a fraud upon the person who signed the blank check.

For instance, where a sum in excess of what was authorized has been filled in, where another name than that which the maker had intended was filled in, where the check is made payable at a later date than had been authorized; and in cases where, as perhaps happened in your case, the agent filled in the name of a person for his own benefit, the signer of the check is liable. I should imagine that there might be circumstances in your case, which you might be able to prove, showing that the agent knew of what had been done or that it had been done with his knowledge, to say the least. This rule should not be confused with the other one, where the signed, blank check has been stolen, without knowledge or negligence of the agent. In the latter case the maker is not liable to subsequent holders.

So the delivery of an incomplete check by the maker to a third person, to be negotiated, does not constitute that third person the agent of the maker with authority to make alterations in parts of the check, which have already been completed. And even if the maker of the check had negligently left blank spaces in the check, he would not be liable to a purchaser in good faith, where an alteration was made by erasing and changing figures already written in the check.

The Negotiable Instruments law expressly provides that a signature on a blank paper, delivered by the person making the signature in order that the paper may be converted into a negotiable instrument (a check is a negotiable instrument), operates as a prima facie authority to fill it in for any amount. But in order that such a check, when completed, may be enforced against a party to it, who has become a party before its completion, it must be filled in strictly in accordance with the authority given and within a reasonable time, subject to the exception, however, that if any such instrument after completion is negotiated to a purchaser in good faith and in due course, it is valid for all purposes and may be enforced by him, as if it had been filled in strictly in accordance with the authority given. The law distinguishes thus between a person who becomes a party to an incompleted instrument and one who is not. If you receive a check, which is incomplete, or you knew that it had been filled in after the maker signed it, you should, if you are a reasonable man, question its validity to the extent that you should ascertain whether it had been filled in according to instructions or authority.

The general test applied in such cases has been stated by eminent authority to be: (1) Has the party, sought to be charged, created an agency or trust, by means of which the fraud has been committed? (2) Has he deliberately given the appearance of validity to the instrument? (3) Has he committed negligence respecting it, by means of which an opportunity for fraud has been created? Whenever either of these three questions can

***Every Effort is made to the End that these Answers may be authoritative. However, we cannot assume any Responsibility because of the very Nature of the Service, which is rendered without a personal Interview.—Editor.**

be answered affirmatively upon a fair consideration of all the circumstances of the case, the balance of equity is in favor of the purchaser in good faith without notice, the axiomatic principle of law then applying, that where two innocent persons must suffer, the one who creates the trust, or does the act, from which the loss results, must bear it.

If the check, which you cashed, was stolen from the maker or his agent, then it is apparent that all three of the above cases must be answered in the negative, and you will lose your money. This statement of mine is to be qualified by the statement that, if you could prove negligence on the part of the signer of the blank check in leaving it about, you might have a chance to win your case on that point. If the check was stolen, the signer certainly did not contribute to that situation by entrusting it to his agent. The theft and not the fact of agency caused your loss.

Where a man makes a completed note payable to bearer, or to the order of the person who later stole it, and puts it in his safe and does not deliver it, a purchaser in good faith from the thief may recover from the maker. In one case in Illinois, where the maker of a note had signed it merely, as a matter of amusement, and it was later stolen and negotiated, the purchaser for value in good faith was entitled to recover from the maker, the Court saying: "The maker evidently intended to sign such a note as this, and she knew its contents when she signed it." Some cases hold a contrary view under the circumstances of the latter case, saying that the maker was not guilty of culpable negligence.

Where a maker has *perfected* an instrument and left it undelivered in a safe, desk or other receptacle, it should then be at his hazard. The maker creates the risk of its being stolen, by keeping it on hand, and places it on the same basis as negotiable papers, which have been put upon the market.

There is still another class of cases of this kind, as where a person writes his name on a blank piece of paper, as on the fly-leaf of a book loaned to another person, and later some person writes a note above the signature. No recovery can be had on such a state of facts, for if recovery were allowed then every one who ever indulges in the idle habit of writing his name for a mere pastime or leaves a sufficient space between a title and his subscription, might be made a bankrupt by having promises to pay money written over his signature.

It must be remembered that there is a conflict of decisions in those cases where a negotiable instrument has never been delivered but has been stolen and then negotiated by the thief. But under the Negotiable Instruments Law it has been held that an incompleted instrument, which has been stolen, cannot give even a purchaser in good faith a good right to recovery. In one New York case the court said that the provision of the Negotiable Instruments Law that, where the instrument is in the hands of a bona fide holder in good faith, a valid delivery by all parties prior to him, so as to make them liable to him, is conclusively presumed, must be read in connection with the provision declaring that where an incompleted instrument has not been delivered, it will not, if completed and negotiated without authority, be a valid contract in the hands of any holder as against any person, whose signature was placed thereon before delivery.

It is a continual source of wonder to me, in my practice, that in these days of big business, when busy executives sign checks in blank for trusted employees to fill in, or sign a long list of checks without knowing the amounts or what they have been issued for, that so few cases arise like the one, which you have stated. Even though you may not be under any legal liability for loss, as far as an innocent purchaser goes, it is not safe to sign checks in blank even for members of one's family, for at the best such checks might be lost or stolen, and having been negotiated by some irresponsible person, you are the loser. Although a bank is bound to know your signature as the maker of a check, it is not bound to know subsequent signatures, and if you actually signed a check and it is lost and negotiated, you have little chance to shoulder the loss off on the bank's ledgers.

I should say that you should learn, if possible, whether any break or suspicious circumstances were ever reported to any one in authority by your customer. If not, there is a chance that the agent may know more about the check, which you cashed, than you have stated in your question.

"DEBOUT LES MORTS"—STAND UP! YE DEAD!

Fort de Vaux was the very center of the "furnace" at Verdun. Seven times the Germans took it and seven times the French poilus won it back. For three days a French regiment held the critical position. Cut off from supplies, unable to obtain reinforcements, without food or water, and under murderous fire every moment these heroic Frenchmen fought the overwhelming force of the Hun.

The crucial minute arrived. The fate of the Citadel of Verdun—the fate of Paris—the fate of France, and civilization was the issue. Humanity and the future of the world hung on the issue of that fight; a handful of exhausted Frenchmen against a desperate German assault.

Just at that moment General Petain's message arrived at the Fort de Vaux. It told the starved and exhausted poilus that they must not be beaten. France depended on them and they must hold.

At the moment when the assault was launched by the Boche, a French lieutenant leaped to the parapet in full view of the remnant of the regiment and shouted the words which have won many hard fights since then:

"Debout les morts!" "Stand up, ye dead, and fight with us for France and victory."

There was something in his voice, in his manner, in his soul that went far beyond the ordinary. He was supernatural. He performed a miracle. The dead of Vaux lay dead as before, but the indomitable spirit of those men dead for France entered into the souls of their few starving comrades—put supernatural strength into their arms—miraculous courage into their hearts—irresistible energy into their assualt. "The dead" actually did fighting again for France and Fort de Vaux was saved. The German Crown Prince was defeated. Verdun was saved. France was saved!

The Fourth Liberty Loan campaign opens September 28th. It is the "Fighting Loan." No matter how much you may have subscribed for previous Liberty Loans your duty at the present time is to think of nothing but your duty to this one. The dead of Vaux could not fight; but their souls could stand up and reinforce the living: What you subscribed for earlier issues of war bonds has been spent. That money went for preparation. The Fourth Liberty Loan is for fighting.

Catch the spirit of the rallying cry: "Stand up, ye dead!" That spirit will make the coming Liberty Loan campaign a victory like that at Fort de Vaux.

QUESTIONS & ANSWERS

MUST INSTALL A HOT WATER HEATING SYSTEM ON THIS JOB.

Editor "Domestic Engineering":—With 20 years' experience in house heating I am obliged to ask the two following questions:

I have a cottage to heat with steam, with radiators on first and second floors, also first floor of cottage next door. There is a six foot space between the houses.

There is no basement in either house, and the chimney has an 8x8 inch unlined flue.

First: Can I heat these two buildings with steam by gravity, without using a pump or receiving tank and no basement?

Second: Can I heat them with hot water by setting boiler on the level with first floor radiators, drop down

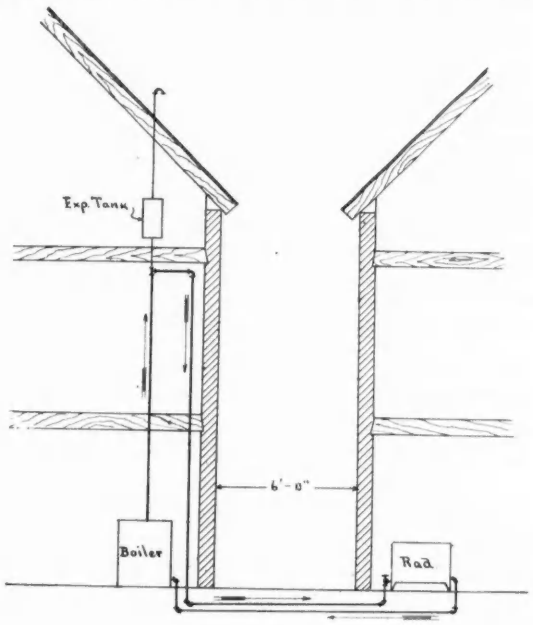


Fig. 1.

from boiler under house through crock and into house next door?

I find very much valuable information in your worthy paper.

Detroit, Mich. E. H. A.

An examination of existing conditions sometimes suggests a method of overcoming a troublesome piping problem which, without a full knowledge of the facts, would otherwise be difficult to solve.

On a gravity steam job, if the return is to be connected directly with the boiler, it is quite impossible to supply steam to radiators located below the water-line of the boiler. To do this requires the use of some appliance or method for lifting the condensation and of returning it to the boiler against whatever pressure is carried upon it. If our understanding of the conditions is correct, we should answer the first question negatively. The two cottages cannot be heated from the same boiler by steam if radiators are to be placed on the first floor unless a pump, return trap or similar appliance is used.

A hot water system can be installed, which will meet the conditions cited and which will do the work in a satisfactory manner. We submit a simple sketch (Fig. 1), showing the method of piping to be followed. The flow pipe, supplying the first floor of the adjacent cottage, should be carried to the ceiling of the second floor of the cottage, in which the boiler is located and then drop to the point where it is to cross the space intervening between the buildings (about six feet). From the top of the loop, which is the high point of the piping, a connection to the expansion tank must be made to relieve it of air; otherwise an air pocket would form, which would destroy the circulation. The arrows on the sketch point out the direction of the circulation, and no doubt correspondent can adapt the method suggested to overcome his particular trouble.

WANTS INFORMATION ABOUT COKE.

Editor "Domestic Engineering":—Kindly give me all the information you can about coke as fuel for hot water and steam boilers, and also for hot air and base burners.

The coal situation is desperate here, and dealers can get coke, so they say.

Is there any difference in the quality of coke?

Greenville, O. M. S. M.

Coke is a smokeless fuel and can be successfully burned in practically every type of heating boiler, furnace or kitchen range.

Coke is a porous fuel, from which all hydrocarbon gases and practically all moisture has been extracted, leaving only the dry solid content or carbon. The percentage of carbon in coke of various grades varies from .85 to .95, the hydrogen from .0 to .05, and the ash or residue from .08 to .12. Owing to the almost complete absence of gas and moisture, coke requires less air for its combustion than is required for any other solid fuel and consequently less chimney area.

The coke, which for years was sold commercially as a fuel, was the product of gas retorts; that is to say, the local gas companies manufactured illuminating gas principally from gas coal, and the coke, being a by-product, was sold for fuel.

Coke is required in great quantity for the iron and steel industries and adjacent to many of these plants, particularly near the bituminous coal fields, are numbers of retorts or coke ovens. In such localities it is not un-

usual to find coke largely used as fuel. This is called "oven" coke, and like anthracite coal of good quality it consists mostly of carbon and therefore has about the same heating value. The heating value of coke ranges from 12,500 B. t. u. per pound to 13,500, depending upon its purity or freedom from ash.

Being porous, coke quickly absorbs moisture and therefore should be stored under cover in a dry place. It can usually be obtained in broken sizes, the commercial or domestic sizes being "Egg" (size 2½ to 3 inches), "Large Stove" (2 to 2½ inches), "Small Stove" (1½ to 2 inches), "Nut" (¾ to 1½ inches), and "Pea" (½ to ¾ inches).

BEST WAY TO CONNECT UP RANGE AND RADIATOR IN BASEMENT TO BOILER ON FIRST FLOOR.

Editor "Domestic Engineering": Fig. 1 shows the location of a 30-gallon boiler and a radiator, which I wish to connect to the water front in a kitchen range. Kindly let me know, through your "Questions and Answers," if

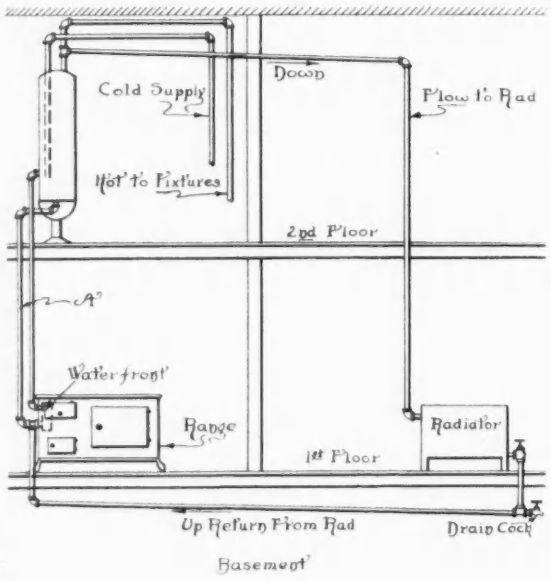


Fig. 1.

the method I plan to use in connecting up the boiler and radiator, will insure perfect circulation. If it will not, please show correct method.

Pennsylvania. A Subscriber.

Yes, the system, as laid out, should circulate well, favoring, of course, the range boiler. Whether it will give perfect satisfaction or not, however, will depend upon the capacity of the water back to heat enough water to supply the radiator in addition to the range boiler.

In this lay-out, the hot water from water back first enters side of boiler. Then it heats that portion of boiler above the side connection. Then hot water begins to circulate down to radiator. It may not reach radiator, however, until the range boiler is entirely hot, and the return pipe, leading from bottom of boiler to lower tapping of water-back, also is hot. Then the radiator will become warm, if the water back is able to furnish enough surplus heat for this purpose.

If water back does not furnish enough heat for both boiler and radiator, the latter will remain cool.

In like manner, when hot water is drawn at fixtures, and an equal quantity of cold water enters boiler to take its place, the return to water back will naturally be down the pipe A instead of through radiator.

Boiler and radiator being both hot, it therefore stands to reason that radiator may cool off first, and remain cool until boiler is entirely reheated.

It is quite possible to connect up as shown in Fig. 2, and get reasonably good results, providing the range fire and water back are powerful.

This lay-out should give warm water quicker at radiator, because all water has to be circulated through the radiator.

But we do not recommend it in preference to your plan, because by your plan you can shut off circulation through radiator during summer, while with Fig. 2 this cannot be done.

If Fig. 2 were used, the radiator valve would have to be omitted, for no valve should be placed in any of the circulation pipes, on which the water back depends.

Fig. 3 shows another way by which the connections may be made. It is evident in both Fig. 1 and Fig. 2, particularly the latter, that a considerable time must elapse, after a fire is started, before hot water can be obtained at the fixtures. Fig. 3 should eliminate that trouble and furnish hot water promptly at fixtures, before the boiler or radiator are hot.

This plan certainly favors the boiler. The hot water enters down through top of boiler. The radiator is fed from bottom of boiler, a three-way cock being used to switch the current into radiator, as desired. This three-

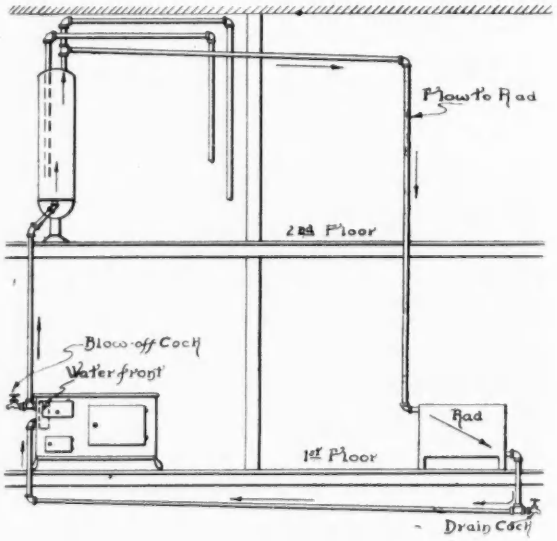


Fig. 2.

way cock is arranged so that the circulation between boiler and water back cannot be entirely shut off at any position of the handle. When turned so that hot water has to flow through radiator, it is entirely shut on the by-pass. When shut to the radiator, it must be full open to the by-pass. And when partly closed to one, it must be partly open to the other. Thus, no matter whether radiator is shut off, wholly or partially, there will always be a free, uninterrupted flow to water back.

This is necessary to prevent formation of steam in water back.

Fig. 1 is very good, but perhaps Fig. 3 is better. It, at least, has the advantage of a prompt and abundant supply of hot water for the plumbing fixtures, a positive circu-

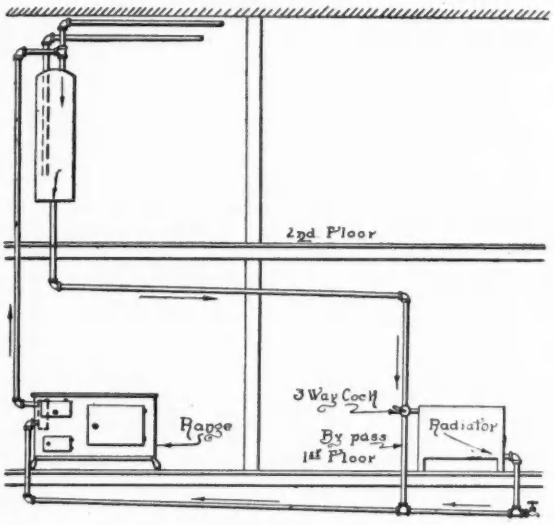
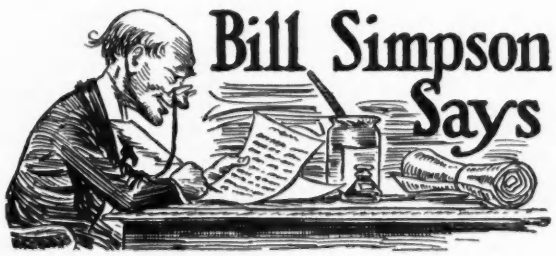


Fig. 3.

lation through the radiator, and means for shutting off that circulation any time without affecting circulation to the range boiler.

We think 1-inch pipe should be used, if pipes are of iron. This will not choke as quickly as ¾-inch, and should give better satisfaction. We also believe the pipes should be covered, and perhaps the range boiler also, if it is not needed to warm the kitchen.



(With Apologies to K. C. B.)

Last night
* * *
I started to school,
* * *
Again—night school.
* * *
I wish you could
* * *
Have been there
* * *
To see the lot
* * *
Of people who enrolled.
* * *
There were boys and girls,
* * *
Young men, and old,
* * *
Middle-aged women
* * *
And women with gray hair.
* * *
At the Central School
* * *
Building, alone,
* * *
There were more than
* * *
Eight hundred people
* * *
Of all different ages
* * *
And at least twenty
* * *
Different nationalities.
* * *
Why did they come?
* * *
The answer is simple!
* * *
They all wanted to learn
* * *
Something that would
* * *
Enable them to
* * *
Help Win the War.
* * *
Some took shorthand
* * *
And typewriting. Others,
* * *
Wireless or auto mechanics.
* * *
The ladies mostly selected
Courses in knitting or
* * *
Domestic Science (which
* * *
Includes instruction in
* * *
The use of wheat substitutes).
* * *
Then there were lessons
* * *
In the use of coal and
* * *
Care of furnaces, etc.
* * *
Altogether it is a
* * *
Win-the-War School,
* * *
And the classes
* * *
Exceedingly practical.
* * *
Are you studying, too,
* * *
To help do your work
More efficiently and
* * *
With greater economy
* * *
Of materials and labor?
* * *
If not, why not start
* * *
A class of your own?

East Greenwich, R. I.—Wm. G. Barry recently secured the contract for the installation of a steam heating system in a large residence in that city.

Worcester, Mass.—M. B. Holmes has been awarded the contract for the installation of a $100,000 heating plant in Pawtucket, R. I., for the R. C. Taylor Estate. The plant is to heat the city hall and library, the Kenyon Conant and Clark Buildings.

Every American must buy Fourth Liberty Bonds to the limit of his ability.

RAYMORE *and* COMPANY
PLUMBING *and* HEATING
SUPPLIES

How a Plumbing Contractor Made a Success of His Business by Refusing to Take Contracts That Were Peddled Around

By Daniel Louis Hanson, Author of "Moses Irons' Stories"

"COME here, Phil!" said the Boss. Harton did so, taking his place beside Mr. Raymore at the window overlooking Mulberry Bend Park.

"Now take these glasses and focus them on the top branch of that big horse chestnut over yonder. Do you see that bunch, that swelling out of the bark?"

"Yes, looks like a spavin on a horse. What is it?"

"That," said Mr. Raymore, taking the glasses, "is the famous or—better still—the infamous chestnut blight. It means that every chestnut around here is doomed. Some fool of a college professor, with a nose for rooting up the unpleasant, brought a sample of it back from Europe. It got out of his room, possibly the maid threw it into the garden, and then it spread all over Massachusetts; first of all the Harvard Yard Elms, then the ones on Boston Common, and now we are to suffer from it here in Mulberry Bend Park." The Boss looked his disgust and sat down heavily.

"Then it must be of the parasite family," suggested Harton.

"Most certainly,—a damnable parasite, living on something else and sapping away its life. The chestnut blight, the elm beetle, the white pine blister! Heaven only knows the full list of the damnable parasite family!"

"I read a mighty interesting book once," said Harton, "on the natural world, such as that tree out yonder, illustrating many phases of the business world."

"That must have been 'Drummond's Natural Law.' Only he took the spiritual world, and you applied it to the business world. A mighty fine book, some day it will be in every one of our business libraries. That parasite on the chestnut made you think of a business parasite, eh? Well, we have enough of such in every line, and ours isn't exempt, Phil."

"I couldn't help but recall the Revell Plumbing Co. at Yonkersville. If there ever was a parasite, it was that!"

"Yes, but what a change came to that!" exclaimed the Boss. "To-day it is the livest and most business-getting concern in the state."

I.

Yonkersville had about twenty-five thousand in population when Anthony Revell told his boss, Michael Sullivan, to go to thunder and walked out of the shop, where he had journeyman-ed for fifteen years. There were five shops in Yonkersville that day; there were six the next, for Revell did what journeyman plumbers the country over have done, when they have felt disgruntled; he opened a shop.

"I guess I can get some of old Sullivan's business," said Revell to his fifteen year old son, Jim.

"Sure thing," answered Jim, a firm believer in what his father did, "you can get all of it, and Mister Sullivan will be working for you before the end of the year," which was some prophecy, for this was September already.

But it sunk in with Anthony Revell. He saw himself in the light of young Jim's eyes; he could get some of Sullivan's trade, that was certain. Beyond that he didn't look then, nor even later. As a journeyman, Anthony had possessed initiative, that ability to handle himself to a large extent, which a man must have to be anything of a success, even as an employe of others. But this ability he left behind him with the old pair of overalls in Sullivan's shop.

"You can have them!" he said to Sullivan, meaning the overalls, for they were all he saw lying there on the floor. But the other that he left he never missed. *No man, with a swelled head, can take a correct inventory of himself,* and Anthony was swelled.

For everything went so easy for him; a supply salesman had hunted him up at his home and was ready to sell him anything and everything Anthony wanted. Yes, even a lot more. Then he had stepped into one of the banks, had stated his case to the cashier, who called the president. There had been a very pleasant talk in the banker's office. That individual had just had a tussle over one of Sullivan's bills and felt aggrieved against that establishment.

"Sure he soaked you!" said Anthony Revell, when he was given the bill to look over. "He's a holy robber, that Sullivan. I didn't feel just easy working for him."

Credit came easy from the supply house; and credit came easy from the bank: "We will stand by you. The town needs an honest plumber," was the bank president's final verdict. "I am going to build a house in the spring, and we will get together on it. I want to see you succeed, Anthony," which meant that the banker wanted a cheap job.

And the question of shop came easy too; Raymond, the capitalist, had just what Revell needed, a large store with huge backroom right on the main street and next to the Opera House. It was really intended for Revell, so Mr. Raymond said. As for the rent, seventy-five a

month, but that wouldn't ever be felt by Anthony, for Raymond, another of Sullivan's old customers, would turn over enough work to take up the rent:

"That Sullivan is fierce on his bills!" said Raymond.

"He sure is!" Anthony agreed and meant it.

So in one day Revell had placed his opening order for supplies, had arranged for loans at the bank, had rented a seventy-five-dollar-a-month store and shop, Sullivan on the back street, and doing a business of a hundred and fifty thousand a year, didn't pay over that for his quarters, and Revell also had secured two of Sullivan's best customers on the promise of lower prices.

Revell basked some more in his admiring son's eyes that evening: "You are a hustler, Dad!" he said, and Dad agreed with him.

"Anthony Revell, Master Plumber," the sign read, but the correct version would have been, "Anthony Revell, Master Parasite."

Of course, Revell didn't prosper a long time—didn't prosper at all, if he only had known it. He and the bank parted company upon the first job he did—or rather —began, for the ambitious-to-save president. That financier had certain ideas as to what a job should cost him, which did violence to even Anthony's somewhat modest ideas along that line. Revell's credit in the bank stopped short the moment, when he and the banker disagreed about plumbing prices. And as to supply houses! Well, Anthony had gone the whole rounds in two years and was then buying in a market five hundred miles from New York City, only forty miles distant.

"I Was There the Day Jimmy Took a Fall Out of His Father."

Some future student of the law of parasitism in business will probably write the entire story of Anthony Revell's first five years in business; that would be so illuminating to the business world, but that time hasn't come yet. In general, however, it can be stated that Anthony Revell lived off from the customers he had known as Michael Sullivan's during his journeyman years. It was Sullivan he copied in every detail—all except Sullivan's habit of getting a living price for his work. The most essential thing then, Revell didn't copy.

In other words Revell had become a full-fledged business parasite. He didn't attempt to get any business from the outside; he never looked up architects to see what they had for him in the way of new buildings; he never went out to create new business among prospective builders, as Sullivan did. He simply did his level best to sap the life out of Sullivan.

Of course Revell hurt Sullivan some, though possibly he didn't do anything worse than wake that gentleman up! But it was the undesirable trade of his old boss he generally secured. And that tells the entire story.

Of course the lease on the store he couldn't get away from; nominally he paid seventy-five a month, but actually it was twice that, if one figured the cut-prices, at which Raymond, the owner, got his plumbing done.

No, Anthony Revell didn't belong to the association; that would have been giving out something to others, and that was against his principles, the principles of the general run of parasites. Get something, but don't give anything to any one else. So Anthony didn't belong to the association.

I have stated that he didn't visit architects, but finally one of them found him. Also a parasite, by the way, as there are parasites living on parasites. "Peddle-the-

Bids" thought a great deal of Revell before long. Revell was so easy for him to work!

"Sullivan offers this for three hundred and fifty-five," he would say to Revell.

"I'll take it for three hundred and twenty-five," Revell would promptly say. You see he already had fallen into one of the lower stages of even parasitic life. He had no sustaining powers of his own. At first the architect would show him Sullivan's bid, or those of others, but after a little even that bluff was dispensed with, and the word of "Peddle-the-Bids" would be taken by Anthony Revell without questioning. He had been sapping others so long that now he was sapping himself.

So the years went, five of them. At their end Anthony was so far down the economic ladder that being a journeyman was by contrast living in the seventh heaven. But, of course, he couldn't go back. No parasite can turn again to a life of independent thought, that way is closed to him. Anthony Revell had reached the bottom, and this tale would be ended by now, had it not been for Jimmy, now a young man of twenty-one or so, but one who had kept his eyes open for a couple of years past.

II.

"I was there the day Jimmy took a fall out of his father," said Harton to the Boss. "It was a matter of collection, some three years old bills, and I went in to make the dun rather from force of habit than from any hope of getting it. When I heard Jimmy laying the law down I started to go out, but Jimmy wouldn't have it so: 'You are interested in this,' he called out to me, 'and you stay and listen. If I am wrong, call me.'"

"But he had it right," insisted the Boss.

"He most certainly did. I hadn't supposed that a mere kid could have so much common sense, but he had been learning in a bitter school.

"'I want to go out and get real business,' he said, 'this tagging around, picking up the discards of Sullivan or any other master plumber, doesn't make for money. I want to get busy with real architects, not crooks who peddle about phony bids. I want to go right at plans and specifications that have red blood in them, not second-hand carcasses!'"

"'Second-hand carcasses' was good!" said the Boss.

"Well, he said it and a lot more. Then he got out a little book he had been keeping on the side and showed his father in black and white where he had dropped money on 'Peddle-the-Bid's' work, and how much too. I was there for three mortal hours that night, and it was the best three hours I ever have put in in a master plumber's shop. It was better than getting a big order."

"And Jimmy won out, as I remember."

"Of course, he won out! It was that or the river for Anthony Revell, and he still had a love of life. So Jimmy, the boy, ran the business and Anthony, the father, looked after the work, at which he was good, and the business picked up, slowly at first, but picked up. Today and for some years past it has been a leading establishment not only in Yonkersville, but throughout the state. It's the other fellow watching the Revells now, and not Anthony Revell trying to get life from them."

Mr. Raymore picked a paper up from his desk: "The commercial agencies report that over fifteen hundred plumbing shops went out of business during the last nine months of 1917. I wonder how many of those were parasites?" he said.

Harton pointed to the ancient horse chestnut: "And how many were parasite killed?" he added. "The parasite dies at last, but not till he has done his worst. Revell did a lot of damage to the other five shops in Yonkersville before he took a tumble. He hurt himself, and he hurt them."

Raymore looked out on the dying chestnut and sighed: "You are right—alas, too right!" he said.

NO COVENANTED PEACE WITH GERMANY.

America, unless we repudiate civilization and abandon humanity and put a premium on savagery and brutality, can make no covenanted peace, no peace by agreement or negotiation with Germany. It would be a covenant with hell, a partnership with infamy.

Nor would such a peace secure peace, except so long as it suited Germany. We can judge the future only by the past, and to Germany sacred treaties are scraps of paper only. Germany's whole history is a record of national treachery, national bad faith, national dishonor, national murder, and national infamy.

Article 56 of the Hague Convention, to which Germany solemnly subscribed, is: "Family honor and rights, the lives of persons and private property, as well as religious convictions and practice, must be respected. Private property cannot be confiscated."

The world knows how Germany has observed this article. There are millions of individual witnesses to her flagrant breaches of it. Every acre of foreign soil Germany has occupied bears mute, but unimpeachable evidence of it. There is plenty of German evidence of it, too.

"The goods of different sorts seized in the enemies' territories are in such large quantities that the difficulty of knowing where to put them increases day by day. At the request of the Prussian minister of war, all chambers of commerce have been asked to give all possible information with regard to storehouses, sheds, etc., which could be used temporarily to warehouse the spoil." (From the "Frankfurter Zeitung," January, 1918.)

The German papers have been crowded with advertisements of sale of property taken from France and Belgium. Members of the Reichstag have boasted of, others have censured, the amount of booty brought to Germany from the occupied territory, and the destruction has been far greater than the confiscation.

Of the old men and children murdered, of the women and girls ravished, of the non-combatants taken from their homes and deported to work for their conquerors, of the merchant ships sunk and passengers and crews murdered, of the hospital ships sunk, the hospitals and unfortified cities bombed, of the mutilation and murder by crucifixion and otherwise of wounded and captured soldiers—of all this beastliness there is plenty of evidence, evidence that no one can disbelieve.

The best answer to German peace propaganda is sinking more U-boats, sending more men to France, speeding up our work along every line, and a heavy subscription to the Fourth Liberty Loan. Peace must mean the triumph of right and justice, the defeat of Germanism, not a truce with it, not a compromise with it.

Our soldiers in France are gloriously doing their part toward victory; the Liberty Loan subscription must show them that the people at home are doing theirs.

Harrisburg, Pa.—Fisher Bros., plumbing and heating contractors, have recently secured a large contract in connection with the new aviation field at Middletown.

New Haven, Conn.—E. R. Tierney, of 13 May Street, has recently been awarded the contract for the installation of plumbing and heating systems in John Day Jackson's new residence.

A MESSAGE *to* AMERICAN BUSINESS MEN *from* ENGLAND

Excerpt from Address Made in New York City, by Val Fisher, of London, Member of London Chamber of Commerce, Assoc. Member American Chamber of Commerce in London

IN four years of war many things have happened in Great Britain that I am quite sure you will be interested in hearing about. Some wonderful things have happened in advertising, through war conditions, and I want to touch on some of those things, that you may be prepared for the conditions that will probably arise as the war goes on. In the last four years the business men of Great Britain have learned more concerning the importance of building good-will through advertising than they did in forty years preceding the war.

In considering business conditions in England you must bear in mind that *one-half of all the men in England between the ages of* 18 *and* 51 *are in miltary or naval service.* That means *one-third* of our entire male population, from the infants in the cradle to the extremely old.

You must bear in mind that 5,000,000 British women, who never worked before, have voluntarily gone to work to fill the places of men at the front. Hundreds of our women are working in factories making T. N. T.—a work that ruins the hair and turns the skin yellow—thus sacrificing their beauty for the rest of their lives for the sake of Britain and freedom. We have only one business in England and that is to win the war. We are all concentrated on that one thing, even to the boys and girls.

You would think under such conditions, with as many men in active service, in proportion to population, as you would have if you had 18,000,000 men in uniform—you would think under such conditions that retail business would be bound to be bad. And yet business in wonderfully good. You American business men are now in much the same position as were the British business men at the end of their first year of war. You are wondering what will be the effect of increasing selective service—you are anticipating restrictions on your business—and I want to tell you some of our experiences so you can profit by them.

The department stores of any country usually reflect the state of trade. The profits of the twelve leading London department stores during the period of war were as follows: Fiscal year 1914-15, profits $4,950,000; 1915-16, $4,250,000; 1916-17, $5,575,000. In the Provinces the profits of the nine leading stores were: 1914-15, $750,000; 1915-16, $945,000; 1916-17, $1,150,000.

In the wholesale trade, the seven largest British houses increased their profits from $3,429,000 in 1914-15 to $5,885,000 in 1916-17. In the grocery trade, our leading chain-store firm made a profit of $2,313,755 in 1916-17 and increased it to $3,736,000 in 1917-18, the latter figure being $1,000,000 per annum over their averages for the previous five years. Lest you should think this is profiteering, I will tell you that the turn-overs justify such profits, and further, the British Government has recently declared there was no profiteering. Trade is good, abnormally good in England, because never before in its history have there been so many workers per thousand population—never before has the wealth of the country been so evenly distributed.

The experience of Britain's retail stores contains an object lesson, which should not be lost on the business men of America. During the first few months of the war, many stores cut down their advertising. But Selfridge did not. He did not skip a single day. He used all the space the papers would allow him to use and has continued to do so. The result was that Selfridge's profits during the first year of the war were $573,000; during the second, $750,000, and during the third year, $1,125,00.

Another London store, much larger than Selfridge's, at the start of the war, decided to cut down its advertising, and did so until they saw their mistake, and the result is shown in their returns. This store's profits for the first year of the war were $1,546,000; for the second year, $1,000,000; and for the third year, $1,175,000. From fourth or fifth place among London stores, in volume of business and profits, at the start of the war, Selfridge has climbed to *second place* as the result of his continuous advertising, and he would be *first* today, had not the war prevented building additions to his store.

British manufacturers who have not a dollar's worth of merchandise to sell, whose entire plants are employed on Government work, are keeping their advertising continuously before the public, because while they are perfectly willing to turn their profits over to the Government, while they are perfectly willing for the sake of winning the war to have their factories commandeered and their normal business completely stopped, yet they are not willing to sacrifice their good-will; they are not willing to have their names or their products forgotten.

And so they continue their advertising, continue building their good-will, so that when the war shall be won there will be an immediate demand for the billions of dollars' worth of merchandise that their greatly enlarged factories will then turn out.

This is a time when every manufacturer, every business man, should look far ahead. Good-will cannot be built in a day, even by advertising. The war will not last always. We have all seen the mistake of being unprepared for war; it is almost as great and serious a mistake to be *unprepared for peace.*

What are you going to do with your acres and acres of enlarged factory space now employed in the making of war products all over America, if you don't build good-will now for the goods you are going to make when the war is won? How are you going to keep the smoke coming out of your factory chimneys after peace is declared, if you don't keep your name constantly before the public now, and build a demand for your peace-time products that will *insure a satisfactory business the minute you stop making munitions or other war supplies?*

The war has taught the manufacturers and business men of Britain that advertising is not only the least expensive way to sell goods, but that it also has the far more important function of *building good-will*—a good-will whose benefits, especially in critical times, can hardly be measured. British business men have also learned that advertising can be used in time of war to *stop* the sale of their goods, and at the same time retain and even increase the good-will of the public. In a few cases British corporations have realized when it was too late, and after irrevocable damage was done, that advertising would have saved them.

Moreover, you Americans must not forget your opportunities for foreign trade. Millions of people in Great Britain and France and Italy and Central South America will be looking to you for American-made goods when the war is over. Those of you, who are best prepared, those of you, whose good-will is most firmly established, will reap the greatest benefit.

From the outbreak of the war British business men clearly recognized their duty to their country and its fighting men. It was essential that they should strain every nerve to keep the trade of the country as near normal as possible during the war, and it is just as essential that when peace comes they must be prepared *to keep every factory working at full pressure and to find employment for every employable unit.* It is only by such methods that Britain can pay for her share of the war.

No nation stands to gain as much commercially from the war as does America. In Great Britain the per capita income is $236, and the per capita debt $589; in the United States your per capita income is $352, and your per capita debt is $63.

As you gentlemen know, I have been interested in fostering Anglo-American trade for many years. And I want to warn your manufacturing and export houses that *now* is the time to prepare for peace. I find a tendency here to neglect preparations for export trade until peace has been declared. There could not be a greater mistake. Now is not the time to export, but most emphatically now *is* the time to lay your plans and build good-will.

Through a long experience with Anglo-American trade I know that most of the failures made by British houses, exporting to this country, and of American houses, exporting to Great Britain, have come about through the lack of adequately understanding the temperaments of the public in the two countries.

These are times of rapid and tremendous change. No man can rest on his laurels. Those who were leaders last year, those who are leaders now in their respective business lines, may be surpassed next year by far-seeing, efficient and *thoroughly prepared competitors who have laid their plans a long way in advance.*

CONVENTION DATES.

October 9, 1918.—The annual meeting of the Eastern Supply Association, at the Hotel Astor, New York City.

October 14 and 15, 1918.—The annual meeting of the American Society of Sanitary Engineering, at Chicago, with headquarters at the Congress Hotel.

October 14 to 17, 1918.—The annual convention of the American Public Health Association, at Chicago.

October 16, 1918.—The fall meeting of the Central Supply Association, in Chicago.

December 11 and 12, 1918.—The regular quarterly meeting of the National Association of Brass Manufacturers, in New York City.

If you Can't Fight, Your Money Can!

PRESIDENT L. McNAMARA ANNOUNCES HIS CABINET AND APPOINTS IMPORTANT COMMITTEES.

L. McNamara, of St. Louis, Mo., president of the National Association of Master Plumbers, has just announced his selection of members of the Board of Directors, who will act as his advisers for the ensuing year, and his appointments of various standing committees, as follows:

Board of Directors.

D. H. Roberts, 2133 East 105th Street, Cleveland, Ohio.
James S. Cassedy, 700 Massachusetts Avenue, Cambridge, Mass.
Alexander Coleman, 706 Ellis Avenue, San Francisco, Cal.
Jos. W. Cannon, 11323 Michigan Avenue, Chicago.
D. F. Durkin, Jr., 1613 Pine Street, Philadelphia.
William F. Eckart, 1614 Third Avenue, Seattle, Wash.
C. H. Maloney, 548 Washington Street, Gary, Ind.
P. J. Reaney, 3312 Elm Street, Dallas, Texas.
Jacob Schuh, 120 Vliet Street, Milwaukee, Wis.
Geo. E. Smith, 1180 Stout Street, Denver, Colo.
John Turbett, 18 Fleming Avenue, Newark, N. J.

By virtue of their offices the following gentlemen will also serve as members of the Board of Directors:

President L. McNamara, Room 215, 407 North Broadway, St. Louis, Mo.
Vice-President Frank B. Lasette, 238 West 108th Street, New York City.
Secretary A. A. Zertanna, Room 215, 407 North Broadway, St. Louis, Mo.
Treasurer C. J. Herbert, 422 South Dearborn Street, Chicago.

Educational Committee.

E. J. Hanley, Chairman, Room 215, 407 North Broadway, St. Louis, Mo.
James M. Wilson, Washington, Iowa.
Wm. A. Bradford, 5 Maple Street, Quincy, Mass.
W. W. Hughes, 1514 Franklin Avenue, Minneapolis, Minn.
Joseph W. Pate, 2015 Fourth Avenue North, Birmingham, Ala.
Robt. H. Pflug-Felder, Eighth and Norris Streets, Philadelphia.
F. C. Schilling, 2214 West Pico Street, Los Angeles, Cal.

Essay Committee.

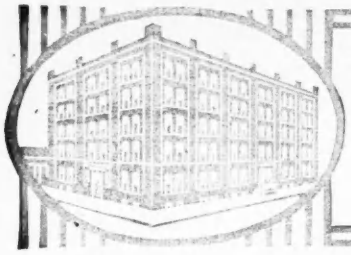
J. C. Bixby, Chairman, 322 South Nineteenth Street, Omaha, Nebr.
M. C. Enggas, 418 Grand Avenue, Kansas City, Mo.
E. R. Lumsden, 724 Philadelphia Street, Indiana, Pa.
F. E. Beyer, 145 Franklin Street, Buffalo, N. Y.
Wm. Wanner, 1219 Vine St., Cincinnati, Ohio.

War Service Committee.

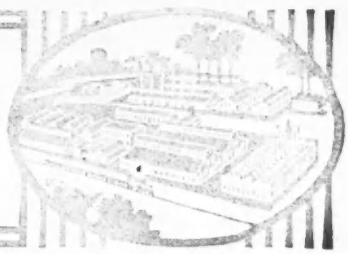
Walter D. Nolan, Chairman, 1336 New York Avenue, Washington, D. C.
John Trainor, 877 North Howard Street, Baltimore, Md.
D. F. Durkin, Jr., 1613 Pine Street, Philadelphia.

The T. A. Ridder Co., Inc., is the name of a new Massachusetts corporation formed to manufacture and install heating and ventilating apparatus with headquarters at Boston. The corporation is capitalized at $20,000 and the directors are Thomas F. McGrail, president; Thomas A. Ridder, treasurer, and Albert Thorley, secretary.

Buy Fourth Liberty Loan Bonds!



Among the Wholesalers and Manufacturers



HOW JOBBERS ARE TO FILL OUT MONTHLY REPORTS TO WAR INDUSTRIES BOARD.

The following letter from the War Industries Board is in reply to a request from John McClure Chase, vice-chairman of the Eastern Supply War Service Committee, to set aright some jobbers who seem to be confused about the filling out of monthly report forms, to be furnished to the Director of Steel Supply:

"In reference to the blank forms on which reports are to be made monthly to the Director of Steel Supply, the jobber has the option of two methods of replacement. He may either base his replacement on his sales of the previous month of each commodity, or, if his stock is abnormally low, he has the privilege of selecting another form for replacement, namely, the average monthly shipments made to him during the first six months of this year.

"You will note that this is the average monthly shipments into your stocks from the mills, not average monthly sales.

"In regard to filling out the reverse side of the form, you should indicate the tonnage you desire to replace with the various mills, who are your regular source of supply, to take care of this replacement, and the amount should total exactly the tonnage sold in July or the average monthly shipments received during the first six months. The jobber is not required to place all of his replacement tonnage with one mill or with the same mill who happened to ship him the previous month. He can select and divide up the orders among any of the mills, providing they constitute his normal sources of supply.

"Whichever form or replacement you desire, you must advise the mills, in specifying the orders, of the fact. It is understood, of course, that the replacement privilege covers the tonnage of the various commodities, in other words, bars cannot be replaced with plates nor structural shapes with tubular products.

"Yours truly,

"J. Leonard Replogle, Director of Steel Supply.
"Per Andrew Wheeler, Chief of Bureau of Warehouse Distribution."

OPENS NEW WAREHOUSE.

The Union Radiator Co., of Johnstown, Pa., has opened a new warehouse on Gray's Ferry Road, Philadelphia, in order to serve its trade better in that vicinity. The new warehouse covers 40,000 square feet and is two stories high.

MOVES SPECIALTY DEPARTMENT TO MAIN OFFICE.

The engineering specialty department of Ford & Kendig Co., 27 North Seventh Street, Philadelphia, is being moved to the main offices of the company at 1428-1432 Callowhill Street, in that city.

HEAT REGULATION COMMITTEE OF A. S. H. & V. E. COMPILES DATA FOR UNITED STATES FUEL ADMINISTRATOR.

The Heat Regulation Committee of the American Society of Heating and Ventilating Engineers, appointed to compile data on heat economy for the United States Fuel Administrator and of which S. R. Lewis, of Chicago, is chairman, has submitted a tentative report to the council of the society. Those who have read the report, pronounce it an excellent and valuable paper. It is unofficially announced that it will shortly be presented to the fuel administrator.

HEATING ENGINEERS TO ASSIST NEW YORK STATE FUEL ADMINISTRATION.

At the request of the New York State Fuel Administrator a committee has been appointed by President P. H. Seward, of the New York Chapter of the American Society of Heating and Ventilating Engineers, to assist the administrator in fuel conservation matters. The committee is composed of Thomas Chester, chairman; W. L. Fleischer, W. S. Timmis and Perry West.

DECLARES EXTRA DIVIDEND.

The Youngstown Sheet & Tube Co., of Youngstown, O., has declared an extra dividend of 3 per cent on the common stock, in addition to the regular quarterly dividend of 2 per cent, and the regular quarterly dividend of 1¾ per cent on the preferred stock. Dividends are payable October 1st to stock of record September 20th.

THE FALL MEETING OF THE NATIONAL ASSOCIATION OF BRASS MANUFACTURERS.

Standardization of Plumbers' Brass Goods Recommended to Government.

The National Association of Brass Manufacturers held its regular fall meeting at the Hollenden Hotel, in Cleveland, O., on Thursday, September 12th, with a good attendance.

Following roll call, the minutes of the midsummer meeting held in Cleveland, were read and approved. The committee's report on the Standardization of Catalogs, for size 7½ by 10⅝ inches, was adopted; and it was ordered that no change be made in list and no official catalog be published during the war.

Action on the Standardization Committee's report was deferred pending the conference with and the decision of the authorities at Washington.

The Committee on China and Porcelain Parts was continued.

The minimum charge on parcel post and express shipments was reaffirmed as follows:

"On shipments made by parcel post or express, the

minimum charge for merchandise shall be 15 cents and in addition a proper charge will be made to cover the amount of the postage or carrying charge, the charge for insuring the safe delivery of the package and service covering the labor and expense incident to all parcel post and express shipments. Total net minimum charge 25 cents and from that up—cannot be put on books for less."

Commissioner Wm. M. Webster was requested to take up, with the Tubular Goods Exchange, the great variation and difference in shapes of the same sizes of different makes or manufacture of rubber stoppers, which in many cases makes it well nigh impossible to get them to properly seat in the metallic parts, and to see if this trouble cannot be overcome by standardizing the rubber stoppers.

The following recommendation of the Carbon Club on the suggested standardization of ball cocks was received:

Description	Sizes Inches
Base flange, diameter	1⅜
Threaded shank, length	1¾
Threaded shank, diameter	½
Threaded shank, threads per inch	14
Lock nut, diameter	1 1/16
Tail piece, length	1½
Tail piece, diameter of collar	½
Tail piece, threaded end I. P. S	⅜
Coupling nut, height	5/8
Coupling nut, diameter of hole	⅛

Recommendations.

Recommended to the authorities at Washington for adoption, the following goods, which items are designated by the figure number in the Official Catalog of the National Association of Brass Manufacturers, adopted January 1, 1915:

Bibbs: All to be ½ inch rough nickel plated.—3000, 3001, 3014, 3015, 3084, 3312, 3320

Bibbs Ground Key: ½ to 2 inches, inclusive (except ¾ inch).

Stops: ⅜ and ½ inch, rough nickel plated.—3450, 3451, 3483, ½ to 2 inches, inclusive (except 5/8 inch).

Sill Cocks: ½ inch rough nickel plated.—3560.

Urinal Cocks: ½ inch, rough nickel plated.—3501, 3513.

Boiler Drain Cocks: ½ by ½ inch, rough.—3571.

Basin Cocks: Finished nickel plated, with 4-arm brass handle, no index.—3616 (without stuffing box), 3623.

Self-Closing Basin Cocks: Finished nickel plated brass handle, no index.—3698.

Pantry Cocks: Finished nickel plated, no index.—3750.

Slop Sink Cocks: Rough nickel plated, 4-arm handle, no index, ½ inch male, rough nickel plated pail hook and brace, with nuts on inlets and loose set screw flanges.—3812.

Bath Cocks: Finished nickel plated with lock nuts and rough nickel plated style K couplings, 4-arm brass handle, no index, without hose coupling.—3829. Weight of bath cocks without Jewel Cup couplings to be not less than 2¾ pounds.

Shower Stop: ½ inch rough nickel plated.—3465, 3490 (self closing), 3491. ½ inch rough nickel plated globe or angle shower stops, with soft composition disc for water and iron corrugated steel handle, not shown in catalog.

The weight of the No. 3000 bibb shall be not less than thirteen (13) ounces, and all other bibbs, stops, basin cocks, etc., in proportion.

Any style of compression construction will be acceptable.

Handles may be either "T" or lever.

On the self-closing work ball or roller bearings may be substituted for Boston pattern.

Ground Key Stops and Stop and Wastes: Rough brass ½ to 2 inches (except 5/8 inch), 3954, 3955, 3982, 3968, 3969, 3983, 4031, 4032, 4043, 4088, 4055, 4056, 4044, 4093.

Corporation Cocks: 4070, 4071, 4074, 4075, 4087.

Lead Flange Union Coupling: 4085, 4086.

Lead Goose Necks: 4077, 4078.

Gas Service Cocks: Flat head, ½ to 2 inches, rough brass.—4501.

Brass Solder Nipple: Male or female, ⅜ to 4 inches.—4248, 4249.

Boiler Couplings: Rough brass, ¾ inch.—4256, 4257.

Raised Brass Strainers: Finished brass, 2-inch iron pipe male thread, no lock nuts.—4242.

Brass Ferrules: 2, 3 and 4 inches.—4273.

Reducing Ferrules: 2 by 1½ inches—4 inches long.—4276.

S. and P Traps: Cast brass, rough nickel plated with P. O. plug, finished nickel plated, rubber stopper, 1¼ and 1½ inches, 20 gauge tubing.—4450, 4458.

Supply Pipes: Owing to the fact that seamless brass pipe can be obtained only on priority orders for Governmental work only, it is recommended that galvanized iron be used for bath and lavatory supply pipes. For the description of controlling stops see above.

Connected Waste and Overflow: Rough nickel plated outside of tub, finished nickel plated inside of tub, 1⅜-inch tubing throughout.

Showers: Types: Showers having ½-inch I. P. S. supply connections.

Connection between supply valves and shower head not larger than ½-inch I. P. thread.

Rough brass shower head 4 inches in diameter, removable face, inlet ½-inch female thread.

Curtain supports when required 24-inch round or 24 by 36-inch oval.

Shampoo furnished, if required.

Discontinue all patterns of needle baths excepting the single or double horse show and side rose spray types.

When stops are to be used in supply pipe to showers, the loose-key type only to be furnished.

Lavatory Supply Fixtures: As distinguished from the ordinary basin faucets a supply fixture having a single supply spout in combination with hot and cold supply valves. The use of compression valves only eliminating Fuller and self-closing valves.

Lavatory Waste Fixtures: A pop-up waste operated by handle through top of lavatory to the exclusion of the double tube so-called secret waste.

The ordinary patent overflow with chain and plug.

Tub Fittings: Supply fixtures: As distinguished from the ordinary double or single bath cocks, a single supply spout or bell in combination with hot and cold supply valves. The use of compression valves only eliminating Fuller valves. Top nozzle or top bell supply to be furnished to the exclusion of bottom bell. Valves for built-in tubs either exposed or concealed type to be not larger than ¾ inch. No combination supply fixtures to be furnished for the ordinary roll rim or free standing tub.

Waste Fixtures: The ordinary connected waste and overflow with china and plug.

The double tube standing waste and outside tube no larger than 2¼ inches in diameter.

No bath pop-up fixtures to be made.

Hospital Fixtures: Special fixtures or appliances peculiar to hospital use or requirements to be furnished.

General Recommendations.

We strongly and urgently recommend the eliminating of fixtures of all kinds made of so-called white and other special metals except for marine work and chemical work.

We recommend, where possible, the use of concealed or built-in showers and tub fittings as a means of conserving polishing and nickel plating work.

For public baths, institutions, cantonments, factories, etc., we recommend the use of unfinished brass fittings, nickeled on the rough and the use of galvanized iron pipe for connecting parts.

All goods must be tested and marked with the name of the manufacturers.

The use of 4450 and 4458 P. and S. traps, respectively, in lieu of 4451, as the union connection affords every opportunity for cleaning purposes that the trap screw does, and being in the interest of conservation of labor and metals, should be used.

The commissioner is authorized to submit to the members and non-members, a list of these goods and ask them to supply their weights as specified on each article and return to his office not later than October 3rd, and the Standardization Committee will meet in Chicago on October 8th for the purpose of tabulating and compiling same, and making the final recommendation of articles and weights to the Government for adoption.

Bath cocks 3829 or similar, without Jewel cup or couplings, to be not less than 2¾ pounds.

Adolph Mueller, of Decatur, Ill., was elected as permanent representative on the Building Material Section of the War Industries Board.

The president was authorized to appoint a committee to make suitable arrangements for an informal smoker to be given at the New York meeting on Wednesday evening, December 11th.

President Strauss was also authorized to appoint a committee to meet with the Tubular. Exchange Manufacturers, Brass Tank Goods and Showers, in Cleveland, and represent the association.

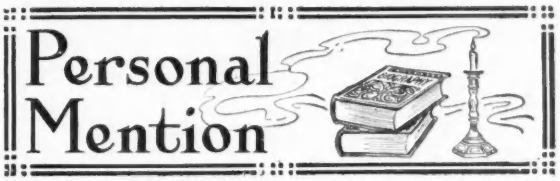
The next meeting of the association will be held in New York City, on Wednesday and Thursday, December 11th and 12th.

TO PREPARE SEASON PROGRAM FOR NEW YORK CHAPTER OF A. S. H. & V. E.

President P. H. Seward, of the New York Chapter of the American Society of Heating and Ventilating Engineers, will call a meeting of the council shortly to prepare the program for monthly meetings to be held during the 1918-1919 season, which opens next month. The first meeting will probably be called for October 21st, and undoubtedly the Building Trades Club will again be the scene of the chapter's activities.

PROCEEDINGS OF THE AMERICAN SOCIETY OF SANITARY ENGINEERING.

The proceedings of the American Society of Sanitary Engineering for the years 1915, 1916 and 1917 have just been issued and are ready for distribution to members in good standing. The most notable features of the work are discussions on the standardization of pipe materials and plumbing ordinances. Thomas J. Claffy, past president of the society and a member of the board of directors, compiled and edited the proceedings, which contain a great fund of valuable information. The proceedings appear in the form of a book of 510 pages, 5¾x 8¼ inches in size, bound in blue cloth.



F. E. Georgia, manager of Crane Co.'s branch at Oklahoma City, Okla., was in Chicago this week, visiting the company's main offices.

W. A. King, of Washington, D. C., has been appointed resident representative of the National Federation of Building Industries for the next two months.

A. S. Frampton, manager of the Chicago office of the Wheeling Steel & Iron Co., of Wheeling, W. Va., has just returned to Chicago from a trip through the southwest on which he motored from Denver to Kansas City.

A. A. Tomlinson and James W. Farrell, president and vice-president, respectively, of Froelich Bros., Inc., Philadelphia, have been spending several days at Atlantic City, N. J., as the guests of William Froelich, one of the former active partners in this concern. They went out for fish, but, somehow, persisted in hauling in crabs.

R. J. Donovan, of R. J. Donovan Co., Inc., of New York City, will start on an auto tour next week. Albany and Syracuse, N. Y., will be covered with Washington, D. C., his ultimate destination, though the trip is subject to possible extension beyond that point.

James S. Weaver, New York district sales manager of the Central Tube Co., is now at the company's home office in Pittsburgh, Pa., taking the place of Mr. Morrow, assistant sales manager, who recently joined the colors. Eugene F. Conroy, Mr. Weaver's assistant in New York, is serving Uncle Sam in the Ordnance Division, having joined that service last week, and David Smythe, of the home office, is now in charge of the New York branch at 30 Church Street.

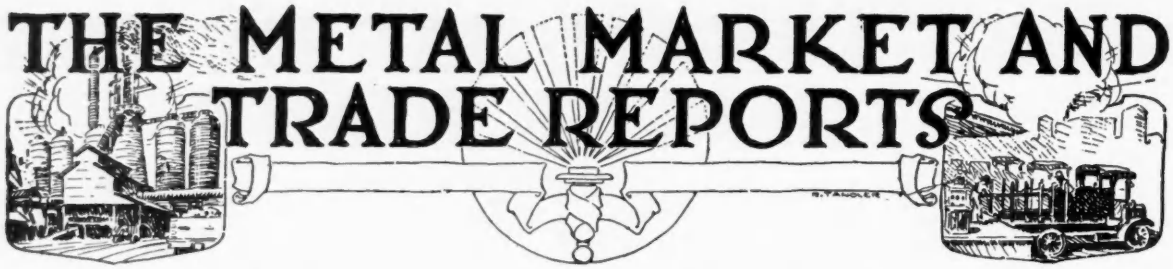
SEVEN REASONS WHY PAPER MUST NOT BE WASTED.

1. The Government's requirements for all kinds of paper are increasing rapidly and must be supplied.
2. Paper making requires a large amount of fuel which is essential for war purposes. A pound of paper wasted represents from one to three pounds of coal wasted.
3. Paper contains valuable chemicals necessary for war purposes. Economy in the use of paper will release a large quantity of these materials for making ammunition or poisonous gas.
4. Paper making requires labor and capital, both of which are needed in war service.
5. Paper making requires transportation space. Economy in the use of paper will release thousands of freight cars for war purposes.
6. Greater care in the purchase and use of paper will save money. Your savings will help finance the war.
7. Strictest economy in the use of paper will prevent a shortage.—War Industries Board.

Pawtucket, R. I.—Michael J. Treacy, of 353 Pawtucket Avenue, has been awarded the contract for the installation of modern plumbing in the hospital at Fort Terry, New London, Conn.

Arctic Centre, R. I.—The Arctic Centre Plumbing & Heating Co. has been awarded the contract for the installation of the heating system in the new store and office building of E. G. Mayo, in Natick.

THE METAL MARKET AND TRADE REPORTS



Steel and Iron.

A falling off in production of steel during August was caused by shortage of labor, and it is feared that the new draft will further curtail the labor supply and make it more difficult to keep up to the pace set to produce the necessary amount of steel to meet Government requirements. Production in August was the smallest since February, but the hot weather was also partly responsible for the small outturn, and on the whole the results during the present year are satisfactory, when all the conditions are considered. Production would have been some better, too, if there had been more pig iron to be had, and this is really the most important consideration, because increased energy must not be hampered by any lack of material with which to work. However, every effort is being made to increase production of steel and to conserve it for the most important purposes. Direct war requirements are so heavy that many finishing departments in the steel industry can do little if any more than supply them. The demands of the railroad administration for more steel have been very pressing of late, because the needs of the railroads were put aside during the first part of the year for more pressing war needs, but the roads must be rehabilitated before winter sets in. The director general of the railroads wants 60,000 tons of rails a week until further notice, but such a tonnage can hardly be produced.

Everywhere the stocks of pig iron are well cleaned up and the outturn of the furnaces is absorbed as fast as produced, although production is falling short of requirements. The shortage of iron is affecting the output of steel, and steel makers would be in the market for basic, if there were any possibility of getting any. The price question is still paramount, and there is much speculation as to how the difficult problem is to be solved. The Government is opposed to price changes, and how far it will go toward encouraging the smaller merchant furnaces is a matter of no small interest. Prices are based upon the old standard grades of No. 2 foundry at $33, and basic at $32 a ton, at the furnace, and will be in operation until October 1st.

Copper.

Copper production gives no cause for anxiety so far as concerns smelting and mining. The statical position is satisfactory, and the supply of metal above ground is estimated to be sufficient. But the supply available for consumers' needs is limited, and the trouble now is at the refineries, which have not only been unable to keep pace with the production of the smelters, but are falling behind the quota demanded by consuming needs. Labor is lacking and is causing much concern. It makes but little difference how heavy the outturn of crude copper is, if the refined metal is short, and it is growing more evident every day that something must be done to meet the present contingencies. The Copper Producers' Committee is doing the best that can be done under the circumstances, and distribution is proceeding along the most economical lines, but there is no discounting the labor problem, which may require the help of the Government to solve. Under present conditions the outturn of copper is only about three-quarters of what it ought to be, and the situation must be remedied, if war requirements are to be met.

Tin.

During the past week an intimation was put forward that there was to be a pooling arrangement for pig tin for the benefit of the Allied nations, but the information was so meager that the trade is still in the dark as to the details of the matter. There is some apprehension of a shortage during the last quarter, with the belief that a fixed price at a low level would be established for Straits tin. Consumers have rejected the prevailing high prices for Banka and Chinese products and have been out of the market for so long a time that receipts must fall off, as orders placed now will take months for delivery. As Straits tin must be sold before shipment, the free market narrows down to Banka and Chinese. Prompt delivery is offered at from 78 to 79 cents against bids of 77 cents.

Lead.

The situation in lead is unimproved, and lead is as difficult to procure as ever. The shortage is caused by an inadequate supply of labor, but the demands have been heavy as well and is another cause of the scarcity. It is a question of refining more than mining, however. The price remains as established by the producers at 8.05 cents for New York delivery and 7.75 cents at East St. Louis.

Spelter.

It is reported that the Government has purchased 6,000 tons of prime Western spelter, but considerable secrecy surrounds the matter. The report is that the spelter is to be delivered during the last quarter of this year, and the price is said to be about 9 cents East St. Louis. Naturally the market is firmer, but outside consumption is light. Spot and September is quoted at 9.85 cents, New York, and 9½ cents in East St. Louis.

Other Metals.

Quotations on other metals in New York are as follows:

Aluminum (in 100-pound lots)	49 cents per lb.
Antimony, Chinese and Japanese	14 cents per lb.
Solder, No. 1	58 cents per lb.

New York Old Metal Market.

The following prices are current for old metals:

	Buying.	Selling.
Copper, heavy	24 cents	25 cents
Copper, light	20 to 21 cents	23 cents
Brass, heavy	14 to 14½ cents	15¾ cents
Brass, light	12 to 12½ cents	13½ cents
Brass turnings	14 to 14¾ cents	15½ cents
Brass clippings	15½ to 16½ cents	17¼ cents
Tea lead	5¾ to 6¼ cents	7 cents
Aluminum clippings	30 to 32 cents	33 cents
Solder joints	14½ to 15 cents	16 cents

Lead, heavy	7 to 7¼ cents	7½ cents
Cocks and faucets	18½ to 19 cents	20 cents
Mixed babbitt	8 to 8¾ cents	9½ cents

Chicago Old Metal Market.

Chicago wholesale dealers' prices are nominally as follows:

	Buying.	Selling.
Heavy yellow brass	15 to 15½ cents	16½ cents
Brass, light	11 to 11½ cents	13 cents
Brass, medium	12¼ to 12¾ cents	13¾ cents
Brass clippings	15½ to 16 cents	17 cents
Red brass	21½ to 22 cents	23 cents
Cocks and faucets	17 to 18 cents	19 cents
Copper, heavy	23 to 23½ cents	24½ cents
Lead, heavy	6¾ to 7 cents	7½ cents
Tea lead	5¾ to 6 cents	6½ cents
Lead dross	4½ to 5 cents	6 cents
Solder joint	15¼ to 15¾ cents	16½ cents
Old iron pipe, per ton	$24.00	$25.00

The Pipe Market.

No changes, whatever, have been announced in the pipe market.

Quotations on less than car lots of full-weight steel pipe remain as follows:

	Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.
⅛ to ⅜ inch	38	10	....	....
½ inch	42	26	....	....
¾ to 3 inch	45	30	....	....
2 inch	....	....	38	24
2½ to 6 inch	....	....	41	27
7 to 12 inch	....	....	38	23
12 to 14 inch	....	....	28½	....
15 inch	....	....	26	....

The quotations apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong steel pipe in less than car lots, quotations are as follows:

	Extra Strong				Double Extra Strong			
	Plain Ends		Plain Ends		Plain Ends		Ffn Ends	
	Butt Weld		Lap Weld		Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.	Bk.	Galv.
⅛, ¼ and ⅜ inch	29	9	....	....	....	....	....	....
½ inch	34	14	....	....	25	5	....	....
¾ to 1½ inch	38	18	....	....	28	8	....	....
2 to 2½ inch	39	19	....	....	30	10	....	....
3 inch	39	19	....	....	....	....	....	....
2 inch	....	....	31	12	....	....	23	4
2½ to 4 inch	....	....	34	15	....	....	25	6
4½ to 6 inch	....	....	33	14	....	....	24	5
7 to 8 inch	....	....	29	10	....	....	19	List
9 to 12 inch	....	....	24	5	....	....	....	....

With threads only, the basing discount is 1 and 1½ points lower. With threads and coupling the basing discount is 3 points lower. The quotations apply to all quantities less than car lots.

Quotations on full weight genuine iron pipe, in less than car lots, are as follows:

	Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.
⅛ and ¼ inch	16	+15	....	....
⅜ inch	17	+12	....	....
½ inch	21	1	....	....
¾ and 1 inch	26	8	....	....
1¼ inch	26	8	11	+6
1½ inch	26	8	18	2
2 inch	....	....	19	3
2½ to 6 inch	....	....	21	6
7 to 12 inch	....	....	18	3

These quotations are f. o. b. Pittsburgh, and apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong genuine wrought iron pipe, with plain ends and in less than car lots, the quotations are as follows:

	Extra Strong				Double Extra Strong			
	Butt Weld		Lap Weld		Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.	Bk.	Galv.
⅛ to ⅜ inch	11	+9	....	....	....	....	....	....
½ inch	16	+4	....	....	3	+17	....	....
¾ and 1 inch	22	2	....	....	8	+12	....	....
1¼ inch	22	2	8	+12	8	+12	....	....
1½ inch	22	2	14	+6	8	+12	3	+16
2 inch	....	....	16	+4	....	....	3	+16
2½ to 4 inch	....	....	18	+2	....	....	5	+14
4½ to 6 inch	....	....	17	+3	....	....	....	....
7 to 8 inch	....	....	9	+11	....	....	....	....
9 to 12 inch	....	....	4	+16	....	....	....	....

These retail prices are f. o. b. Pittsburgh, and apply to all quantities except in car lots. With threads only, the basing discount is 1½ points lower. With threads and couplings, the basing discount is 3 points lower.

To ascertain the price in any city, deduct the proper freight rate from Pittsburgh to that city. To illustrate: ¾ to 3-inch steel pipe, black, is 45 per cent off, Pittsburgh. The freight to Chicago is 39 cents, or it would be 45 per cent minus .039, or .411 per cent Chicago for 10 cents a hundred freight you should deduct one point.

BIG DECREASE IN SPELTER IMPORTS AND EXPORTS.

From approximately 114,000,000 pounds to less than 2,000,000 pounds represents the precipitate drop in spelter imported into the United States from Australia during the year ended June 30, 1918, from that of the corresponding period of 1915-1916 when the boom was at its height, says the "Wall Street Journal." The eagerness of the German controlled zinc smelters in this country to secure concentrates from the British dependency was the cause of the enormous volume of zinc brought here from Australia.

With the edge off the demand for American zinc the value of both imports into and exports from the United States during the past year was less than one-half that of the previous 12 months, being $33,000,000, against $72,000,000 and $55,000,000 one and two years ago, respectively.

The amount of foreign zinc material brought here during the year was but 78,770,011 pounds, against 260,397,423 pounds in the previous year and 254,865,998 pounds two years ago. In the earlier period all foreign producing countries sent their excess output here for treatment, but with the single exception of Mexico this heavy movement has ceased. Two years ago there came from Spain over 32,000,000 pounds; last year not a pound arrived from that source.

Every one of the large foreign customers for American produced zinc has lessened his requirements from the United States, France and England, the best export consumers, apparently filling their requirements in part from Japanese and Australian material.

The exportation of spelter during the past year amounted to 263,379,239 pounds, against 475,729,100 pounds a year ago and 243,332,740 pounds two years ago.

TIN AFTER THE WAR.

A detached view of a market is sometimes of value, hence we quote the following from the "Australian Mining Standard" for what it may be worth:

Users of tin should not reckon on the price of tin falling substantially when peace is re-established. True enough, it is easy to point to factors which, if taken alone, would possibly lead to depreciation—as, for example, the reduction in the consumption of the metal for munition purposes. But, stronger than this, and all other similar factors combined, there outstands the circumstance that the end of the war will see the tin market invaded immediately by German and Austrian buyers. The territories of the Central Powers have been stripped bare of tin stocks during the last four years, and the German buyers will make instant efforts to replenish the prodigious industrial requirements of 120,000,000 of people, who must have tin to resume trade with the outer world.

The Central Powers will no doubt be very anxious to get tin, but it looks as if the only source of supply open to them after the war will be the Dutch East Indies, and even here they will meet world competition.

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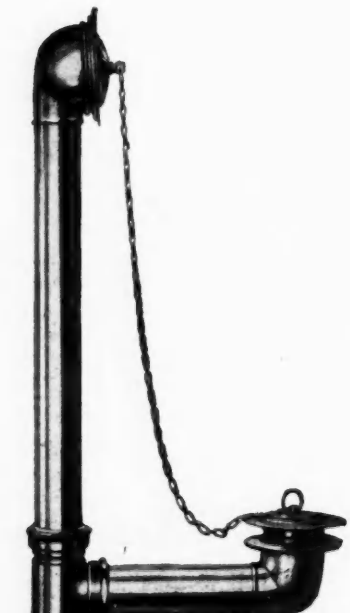

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AMONG THE PLUMBING AND HEATING CONTRACTORS

Illinois

Chicago and Vicinity.

J. J. Adley, of 408 North Wells Street, has secured the contract for the installation of modern plumbing in an $80,000 three-story building, which is to be erected at 2510 South Federal Street. Holabird & Roche are the architects.

E. H. Crosby, of 4629 Prairie Avenue, will remodel the heating system in the St. Mark's Episcopal Church and rectory on Drexel Boulevard.

W. J. Gemeny Co., of 1050 West Randolph Street, will install a modern heating system in a $20,000 addition to the Cosmospolitan Building, at 7940-7942 South Halsted Street.

M. J. Byrne, of 1543 West Sixty-ninth Street, will install modern plumbing in Wm. Patter's residence, at 5617 South Wood Street.

L. H. Prentice Co., of 330 Sherman Street, will install modern heating in the new Cosmospolitan Bank & Savings Building, in Cincinnati.

The United Heating & Plumbing Co., of 301 West Twelfth Street, will install plumbing and heating systems in the new $50,000 bakery and store building at 4224-4230 West Twelfth Street.

C. L. Willey, of 1110 West Fifty-ninth Street, will install modern heating systems in two new bungalows on East Ninety-third Street.

Kostlevy & Co., of 4135 West Twenty-fifth Place, have secured the contract for the installation of plumbing systems in four cottages to be built in their neighborhood.

E. C. Wagner, of 2753 Fullerton Avenue, has secured the contract for remodeling the plumbing in the Norwegian Children's Home at Norwood Park.

Chas. Mundt, of 2202 Milwaukee Avenue, will install the plumbing in a new office and ice house at Belmont and Kildare Avenues.

J. Maday, of 8230 Coles Avenue, will install modern plumbing in two new cottages on Lowe Avenue.

Other Cities in the State.

Fred Adams, of 211 Lawrence Avenue, Elgin, has secured the contract for the installation of modern plumbing in a new $12,000 residence in that city.

C. J. Evelien, of 61 River Street, Elgin, has secured the contract for the installation of plumbing and heating in a new $10,000 residence in that city.

Wendt & Hoxey, of Dundee, will install plumbing and heating systems in an $18,000 garage and service station in that city.

McKean & Roebush, of Casey, have been awarded the contract for the installation of modern plumbing in a new $10,000 school at Yale.

The American Foundry & Furnace Co., of Bloomington, has secured the contract for the installation of a modern heating system in a $90,000 school building at Elmhurst.

George E. Butz, of Hinsdale, will install modern plumbing in the new $90,000 school building at Elmhurst.

Missouri

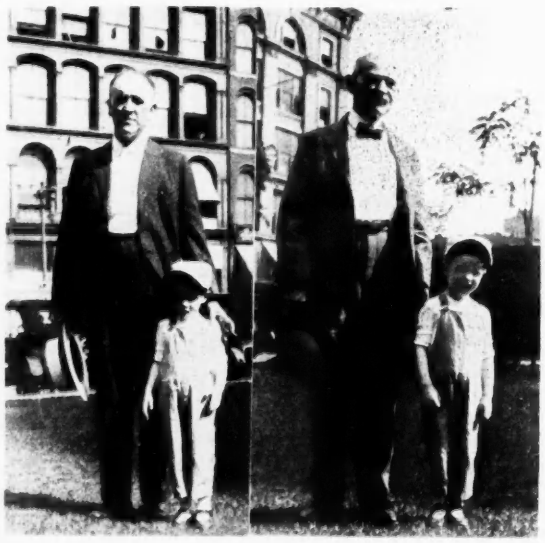
St. Louis and Vicinity.

The contract for the installation of a steam heating system in the new Catholic Church of the Assumption, Ninth and Sidney Streets, was let during the past week. The contract was awarded to the Modern Heating Co., 3935 Olive Street. The consideration is $1,700. This company will also install the heating system in G. A. Doring's new residence at 5103 South Broadway, an $1,800 contract.

The O'Fallon Estate will erect a store building at Grand Avenue and Delmar Boulevard. It was originally intended to erect a large hotel on this site, but the high price of labor and material made this impossible. The new building is to contain quarters for seven stores and will cost about $36,000. The heating and steam work on the building was awarded to the Modern Heating Co.

One of the largest jobs given out during the past month was awarded to the Bradley Heating & Power Co., 3834 Olive Street. It consists in the installation of the heating system in the new Scullin munition plant. The contract amounts to $12,500.

Urbauer-Atwood Heating & Piping Co., 115 South Eleventh Street, has just secured two large heating contracts.



"Partners": S. S. Shepard and S. S. Shepard, Jr., of the S. S. Shepard Plumbing Co., of Atlanta, Ga.—"The Oldest and the Youngest Plumber from Georgia": A. J. Mendenhall and S. S. Shepard, Jr., both of Atlanta. Mr. Mendenhall has been a Master Plumber since 1870, and he is President of the Georgia State Association.—From "Domestic Engineering" Photos, taken at the St. Louis Convention of the National Association of Master Plumbers.

Lieutenant Ambler, brother of E. P. Ambler of the E. P. Ambler Heating & Power Co., 3822 La Salle Street, arrived in St. Louis last week on an extended furlough. Ambler has been in France for a number of months and has been engaged in three battles. He is none the worse for the experience. Last Thursday he spent the afternoon at the headquarters of the Heating and Piping Contractors' Association in the Odd Fellows' Building and regaled his friends in the trade with some thrilling tales of the trench warfare over there.

James Barry, Junior, son of James Barry of the Barry Heating & Power Co., 4426 Olive Street, is in France with the Engineers' Corps. In a recent letter to his father, young Barry was very optimistic and enthusiastic about military life.

Thomas J. Sullivan, Jr., and James Sullivan, the two sons of T. J. Sullivan, secretary of the Heating and Piping Contractors' St. Louis Association, have signed up with the naval authorities for service and are awaiting call, which they expect to receive in the immediate future.

Radio Operator Haller, who is serving on a United States steamer, arrived in St. Louis last week on a short furlough. Mr. Haller was formerly connected with the Hunt Heating Co. in the capacity of draughtsman.

Pennsylvania

Pittsburgh and Vicinity.

The Thompson-Starrett Co., Second National Bank Building, has been awarded the contract for the establishment of an industrial town near Harmarville, up the Allegheny River, for the La Belle Iron Works. Construction is to be started immediately, and the investment will amount to approximately $1,000,000, it is reported. The contract includes the laying of a complete water supply system and the construction of a sewage disposal plant. There are to be 200 five to six-room brick houses in units of six in a block and from 10 to 12 mining buildings. Sub-contracts will be let soon.

The McGinness Co. has been awarded the contract for the installation of mechanical stoker equipment, boiler covering and air control dampers in the new high school building at Duquesne.

The McGinness-Smith Co. has been awarded the contract for the installation of a low-pressure gravity heating system in the Pressed Steel Car Co.'s office on Nichol Avenue, McKees Rocks. The contract amounts to $4,700. The McGinness-Smith Co. also has the contract for the installation of a heating system in an office building owned by the Central District Telephone Co., at 416 Seventh Avenue. The contract price is $2,558.

S. S. White has the contract for all gas fitting and sewer construction for the Nichol Avenue office of the Pressed Steel Car Co.'s plant at McKees Rocks. The contract amounts to $2,925.

The Pittsburgh Real Estate Board marked the opening of its fall luncheon season on Wednesday afternoon of this week in a very patriotic manner, the speaker of the occasion being the Rev. Dr. Daniel L. Marsh, who has just returned from a visit to France, where he spent considerable time with the American forces at the front. Chairman W. H. Heselbarth of the board has some interesting plans for the season, and all events will take place at the board's new headquarters in the Hotel Chatham.

Frank & Seder, who have leased the Solomon Building

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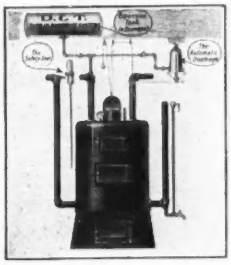
Saves 25% on Coal Bills



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Red and Yellow Ingot Metal.

Brass Founders using H. I. M. Ingot Metal are paying no attention to the high price of Copper and Spelter.

If you neglected to buy H. I. M. write for particulars.

HARTMAN INGOT METAL CO.
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Wherever Steam Is Used for Heat or Power, the

NICHOLSON Expansion Steam Trap

Will Save You Money

It does away with cold radiators and flooded engines. The quick expanding center tube makes action positive. It allows water to pass through, but shuts tight when hot steam comes along.

No levers, no floats or bearings. Nothing to get out of order.

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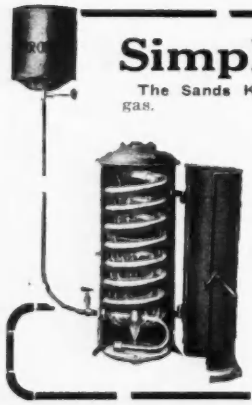
The Sands Kerosene Heater makes its own gas.



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Economical.
Absolutely safe.
No wicks. No odor.
Just the heater for the country home.
Write for circulars and prices.

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EASTERN BRANCH: 7 W. 45th St., NEW YORK
Pacific Coast Branch: 1002-4 Merchants Nat. Bank Bldg., San Francisco, Cal.

for a long term of years, have arranged to remodel the first floor of the big store building into five smaller stores, and contracts for the plumbing, heating and ventilating systems will be let soon. These alterations are to cost about $5,000.

The trades here are busy trying to familiarize themselves with the new order issued from Philadelphia last week, under which the Pennsylvania Council of National Defense has assumed supervision of all building construction and repair work. Hereafter no such work, in excess of $25,000, may be undertaken without the approval of the council. This step is said to have been taken to eliminate all unnecessary building and to conserve materials and labor needed for essential war work.

Extensive alterations are planned in the new quarters for the Students' Army Training Corps, which have been acquired through the leasing recently of the Central Turnverein Building, by the University of Pittsburgh. Workmen will begin immediately to remodel the interior, so that accommodations for 500 students will be available. The structure is to be ready for occupancy by the corps by October 1st.

Philadelphia and Vicinity.

W. G. Cornell Co., of this city, has been awarded the contract for the installation of plumbing in the new Emergency Hospital, being erected by the United States Government on League Island.

James B. Spencer, of 5229 Germantown Avenue, has been awarded the contract for the installation of plumbing and heating systems in the new residence and garage, being erected on Lincoln Drive, for Dr. D. R. Simon.

Thompson Bros., of 125 North Fifth Street, have been awarded the contract for the installation of plumbing in the new office building for the Tacony Ordnance Co., Tacony.

Wm. Newell & Son, of 1707 Sansom Street, will install modern plumbing in the new forging plant being erected at Nicetown.

R. J. Hoben, of Twenty-first Street and De Lancey Place, has recently secured the contract for the installation of plumbing in the gymnasium, being erected for the Baldwin Locomotive Works.

J. D. Newell, of this city, will install modern plumbing and heating systems in the new packing plant of the West Philadelphia Stock Yards Co.

H. Madnich, of 2502 South Third Street, has been awarded the contracts for the installation of plumbing and heating systems in the new nursery at 364 Snyder Avenue. The contracts amount to $5,000.

J. W. Mathews, of 34 South Yewdell Street, will install the plumbing system, and the American Heating & Ventilating Co., of 200 North Fifteenth Street, the heating system in the new school being erected in Essington.

Kline & Bornstein, of Bethlehem, have been awarded the contract for the installation of plumbing and heating in a large residence in this city. The contract amounts to $16,000.

Rhode Island

Thomas B. Connolly, of 339 Thames Street, Newport, has the contract for installing plumbing and heating in a new house and garage to be erected in Middletown for Thomas F. Kecher. Mr. Connolly also has the contract for plumbing and heating in a house on Gibbs Avenue for the same owner.

The McCaffrey Heating Co., of 373 North Main Street,

Pawtucket, is to do the plumbing and heating in a bungalow to be erected on Power Street.

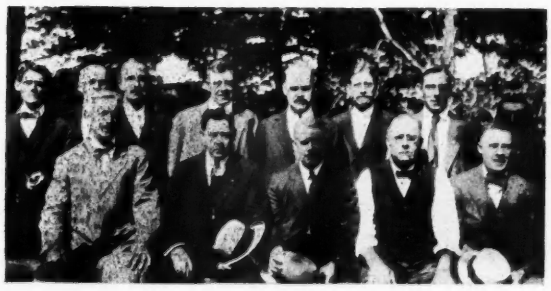
Rhode Island master plumbers, in common with men in the business in other sections of the country, are experiencing great difficulty in obtaining sufficient help to carry on their work. In Providence, Pawtucket, Central Falls and other cities, the master plumbers are literally overrun with work with practically no journeymen to be had. Much of the work is repairing and jobbing which needs immediate attention to put houses and business buildings in proper shape for winter.

Massachusetts

Boston and Vicinity.

The Master Plumbers' Association of Boston and Vicinity held its first fall meeting at the association rooms, on State Street, on Tuesday evening, September 10th, and discussed many matters. It was voted to back up the coming Liberty Loan drive to the utmost. In the campaign for the Third loan more than $60,000 worth of bonds were subscribed through the Boston association, and President Cox hopes to better this record in the Fourth. President Cox and members of the executive board will conduct an active campaign for the sale of the bonds. A letter from Captain Raymond E. Cox, of the field artillery, a son of President Cox, in which he told of his experiences under fire in the recent allied drive in France, was read at the meeting and received with much interest. A plan for holding "dinner meetings" is being considered by the officers of the association. It is believed that many members, particularly those whose places of business are in the city and who live in the suburbs, would enjoy taking their dinner together and discussing business matters as they sit about the tables. The officers are looking into the matter, and the next meeting on September 24th may be held at some local hotel, if arrangements can be made.

The contract for heating in the Hobart Street school in the Brighton district, for the city of Boston, has been awarded to T. A. Ridder & Co., 304 Dover Street, Boston.



New Bedford Master Plumbers at the Recent Outing of the Massachusetts Master Plumbers' Association, at Point Breeze, Mass.—From "Domestic Engineering" Photo.

Other Cities in the State.

C. A. Ludin, of Chicopee, will do the plumbing and the Wyckoff & Lloyd Co., of Springfield, the heating in a new addition to Torrington Co.'s factory at Chicopee.

The Beth-El Society, of Springfield, recently has purchased a building on Fort Pleasant Avenue, which is being extensively remodelled for use as a synagogue. Changes in the heating arrangements are to be made by Fred C. McClean, of Springfield, and the plumbing work will be done by the Bay State Plumbing Co., also of Springfield.

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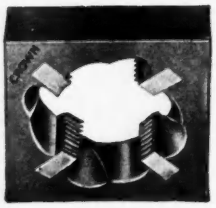

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136 and 138 Beekman Street New York City

The superintendent of public property of the city of Salem has awarded a contract for installing a steam heating system in the North Street fire station in that city to the Lyman, Dupuis, Shea Co., whose bid was $1,069.

The United States Light & Heat Co. is to erect a new $50,000 building at Worcester as an addition to its present plant.

The Kirkwood Plumbing & Hardware Co., of Lenox, has been incorporated under the Massachusetts laws with a capital of $20,000. William Y. Jack is president; Frederick Maskell, treasurer, and T. W. Broderick, secretary.

The plumbing shop of O'Toole Bros., at Clinton, was gutted in a fire which did $15,000 damages to the Haskell Block in that town recently. O'Toole Bros. occupied the street floor and much of their damage was by water. Their loss was covered by insurance.

W. Fred Bourbeau has sold his plumbing business at South Braintree and has taken a position as master plumber at the Fore River plant of the Bethlehem Shipbuilding Corporation.

The committee on public property of the city of Taunton has awarded a contract for installing new sanitary arrangements in the School Street school house to Perra Bros., the lowest of three bidders, for $5,300. McGlynn & Co.'s bid was $5,373, and W. R. Park & Son's was $5,465.

Indiana

Indianapolis and Vicinity.

Hayes Bros., of 236-238 West Vermont Street, Indianapolis, have practically completed the installation of a complete new heating and ventilating system for the House of Representatives and the Senate Chamber in the State Capitol Building at Indianapolis. In past sessions of the legislature sickness and deaths have resulted among the members of both houses because of the inadequate ventilation and heating systems in the rooms occupied by the general assembly. At the 1917 session of the legislature an appropriation of about $132,000 was made for the purpose of remedying these defects and making other needed changes in the building.

L. C. Thiele, of 107 South Meridian Street, Indianapolis, has received the contract to install a heating system in the new $18,000 church that is to be erected at the corner of Pine Street and Chicago Avenue at Hammond.

Other Cities in the State.

Construction work in Gary, during the month of August, closed with 121 permits issued at an aggregated value of $440,210, a record for fall building in Gary, since the building commissioner's office was opened. Fifty-seven residences and thirty flats are included in the month's business. The estimated cost of residences was $173,700, and that for flat buildings was $177,900.

Two Lafayette concerns have been awarded contracts for the rebuilding of the high school at Marshfield, which was destroyed by fire last February. The Werkhoff & Mertz Co. will install the heating and ventilating systems at a cost of $4,090, and the plumbing will be done by the Orth Plumbing Co. at a contract price of $3,760.

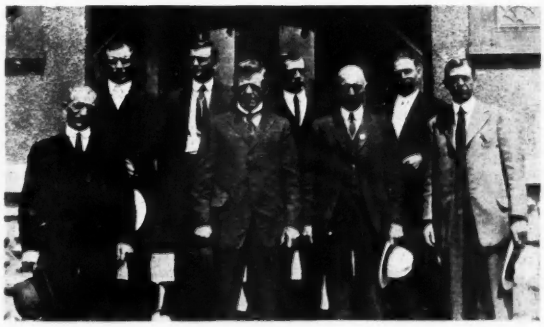
The Lane-Pyke-Werkhoff Co., of 215 North Tenth Street, Lafayette, has received the contract for remodeling the plumbing and heating in the high school building at Dayton, Ind.

The plumbing and heating contracts on the new $12,000 residence and garage that is to be erected at Frankfort, for Walter Cohen, have been awarded to Fred L. Dorsam, 52 West Clinton Street, Frankfort.

California

San Francisco and Vicinity.

Ground has been broken, and work is being rushed on the construction of Clyde, Contra Costa County, a town designed especially for the employes of the Pacific Coast Shipbuilding Co. The site of the town is two and one-half miles from the shipyard, on the shore of the upper Suisun Bay, and about thirty-five miles from San Francisco. The housing project is being carried out by the United States Shipping Board, Emergency Fleet Corporation, with the backing of the Pacific Coast Shipping Co. The work of building the town is being conducted by the Clyde Co., which hopes to make a record on construction, which will compare favorably with that made by the Pacific Coast Shipbuilding Co. in the erection of its plant. One of the features of the project will be the rapid transit between the town and the shipyard. The special requirements of a shipbuilding community have been given careful consideration, and the latest ideas in vogue at the present time will be put into effect to make the workers' homes pleasant ones. Preparations are being made to rush to completion a $75,000 hotel, stores, schools, moving picture theaters, ball grounds and meeting places of all kinds that are needed in a modern little city. Sloan & Robson, and T. H. Cory, engineers, have laid out the plans for the new undertaking. The grading work is being done and sewering, water piping, gas piping and wiring will follow.



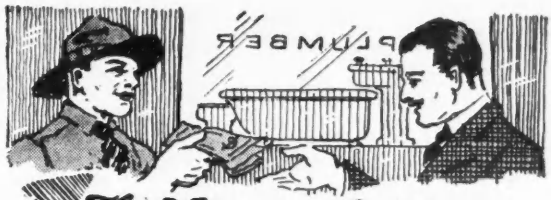
Some of the Officers and Members of the Merchant Plumbers' Association of Los Angeles, Cal.—From Left to Right in Front Row: Secretary G. W. Neal, E. R. Wright, J. Hokom and W. E. Hoffman. In Back Row: E. W. Crowell, L. Z. Brown, Auditor H. E. Cary and Sergeant-at-Arms W. H. Cholmon.—From "Domestic Engineering" Photo, Taken this Month in Front of the Los Angeles Plumbers' Own Building.

Plans have been prepared by Fabre & Bearwald, Merchants' National Bank Building, San Francisco, for the construction of a two-story and basement, brick apartment house to be erected on Jones Street, and to cost in the neighborhood of $60,000. Bids for the plumbing and heating will soon be taken.

Larsen & Sampson, Crocker Building, have been awarded the general contract for the construction of a one-story brick building, to contain three stores and to be built on Mission, between Fourth and Fifth Streets. The contract price is $34,000.

Bids are being taken on subcontracts for a one-story reinforced concrete addition to the present four-story office building of the Bankers' Investment Co., located on the north side of Market Street, east of Grant Avenue.

Plans have been completed for the construction of a two-story brick building to be used for automobile sales



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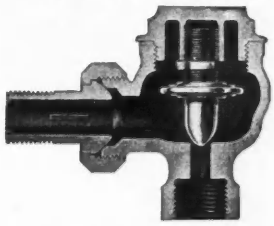

Freely Discharges Air and Water Without Loss of Steam

The Marsh REFLUX Return Line Trap is for use on the return end of radiators of low pressure, vapor and vacuum systems of heating. It is the result of a careful investigation into the actual requirements that must be fulfilled by a radiator return valve, in order that it may accomplish what is desired of it, namely, **to free the radiator of air and water without the loss of steam** and to do so **noiselessly.**

The Marsh Reflux Junior Thermostatic Trap is recommended for small radiators and coils. This Trap for the small and the Original Reflux for the large units will make an ideal job.

Especially adaptable for two pipe gravity work and vapor systems.

May be furnished either concealed adjustment (as illustrated) or with outside adjustment.

Write for literature fully describing this trap.

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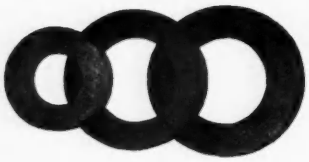

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WITH CAST FEMALE IRON PIPE OUTLET

Fig. 2386

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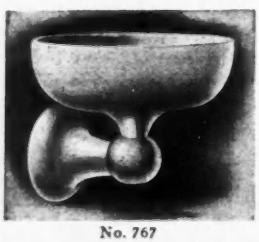

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Trenton, N. J.

rooms to be erected on the corner of Van Ness Avenue and Washington Street. The cost of construction is estimated at $37,000. Plumbing and heating bids will be taken later.

Bids are being received by C. A. Haber, in the Monadnock Building for a three-story school building, to be erected by the Wesley M. E. Society at Elgin and McCoppin Streets. The cost of the new building is placed at $35,000. The building will have a steam heating system and modern plumbing.

Plans are now under way here for the construction of a group of three-story frame apartment houses, containing two, three and four-room apartments and to be erected in Seattle, Wash. The plans have been laid out by Construction Manager Frederick Witton, 369 Pine Street, who has been erecting similar constructions in San Francisco for some time past.

It is expected that bids will be taken shortly for furnishing some 5,000 feet of 8 and 10-inch pipe to be used in the installation work on the Gibraltar dam and Mission reservoir in Santa Barbara.

The general contract has been let to T. E. Cummins for the erection of an addition to the Manual Arts Building at the Kern County Union High School in Bakersfield. The amount of the bid was $29,000. Work will begin at once, and if the labor and material shortage does not retard the work too much, it is expected that the building will be ready for occupancy within three months.

The Oakland Chapter of the Red Cross has been awarded the use of the City Hall Park, for the period of the war, and a $35,000 building to house all Red Cross activities in the district is to be erected immediately. The building will be steam heated and have modern plumbing.

Minnesota

St. Paul and Vicinity.

T. J. Clark has been awarded the contract for the installation of plumbing in E. M. Ritcher's new residence at 223 Avon Street.

George P. McGuiggan has secured the contract for the installation of modern plumbing in a two-story frame building being erected by Mr. Silverman at Portland and Oxford Streets.

E. J. Delaney will install modern plumbing in the three-story concrete store building of the Sims Malt Wheat Co., at Raymond Avenue and Dudley Street.

J. M. Dahlby has been awarded the contract for the installation of plumbing in the Ekberg home at Hyacinth and Earl Streets.

J. C. Prendergast has been awarded the contract for the installation of plumbing in the one-story brick store building, being erected by McQuaid Grocery Co., at Eighth and Cedar Streets.

Martin Tschida has secured the contract for the installation of plumbing in the two-story frame house, being erected by P. Kuhn, at 833 Capitol Avenue, and in J. Kawenor's new residence at 726 Blair Street.

Idaho

The general contract for the new wing to the administration building of the University of Idaho was let to Roth Construction Co., of Lewiston, who will construct the building complete, without the plumbing and heating for $37,575. The contract for plumbing was let to the Witter-Fisher Co., Moscow, at $6,146.

Ohio

Cleveland and Vicinity.

Henrichsen Bros. have moved their heating establishment to new quarters at 5601 Euclid Avenue. Henry Henrichsen, who has been seriously ill and confined to a hospital for several weeks, is reported to be on the road to recovery. The business is being conducted by Peter Henrichsen during the absence of his brother.

Price & Welker have moved their heating business to 707 Canal Road.

The Chappell-Warren Co has moved its heating establishment into its new building at 1830 St. Clair Avenue.

Thefts of plumbing goods have been occurring so frequently in Cleveland lately that plumbing contractors have made arrangements to co-operate with the police department to suppress such thefts and apprehend the offenders.

Among the exhibits which attracted much attention at the Montgomery County Fair, in Dayton, from September 2nd to 6th, was that of the Burnett-Larsh Mfg. Co., of Dayton. The exhibit was arranged in such a way that

The Burnett-Larsh Mfg. Co.'s Display at Montgomery County Fair.

any one of the three pumps shown in the background could be operated and demonstrated to interested parties. Agriculturists at the fair were much interested and it is expected that plumbing contractors in that part of the state will secure many orders for the installation of water supply systems on farms as a result of this missionary work.

New York

New York City and Vicinity.

The Bronx branch of the New York City Association of Master Plumbers is contemplating the establishment of a credit bureau for the guidance of its members, with which will also be incorporated a system of delinquent account collection. Various methods are being considered by the officers in an effort to devise a thoroughly practical and effective system that will at once be of great benefit to the individual member and simple in operation.

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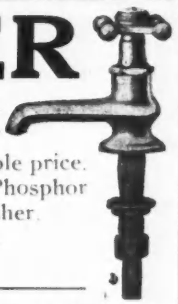

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Embodies a new and exclusive DOLE principle by which you can have every degree of opening required in vacuum or vapor steam heating.
This Adjustment is easily made while the steam is on.
Nothing like it on the market.
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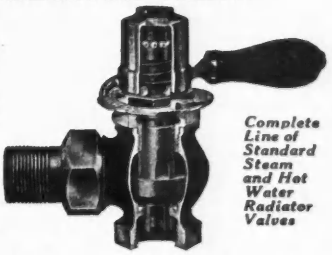

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Kerosene Water Heater
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Heats as HOT and FAST as gas.
Patented wickless burner generates its own gas and throws a clean, powerful, odorless blue flame. Will run over 12 hours on a gallon. Burner absolutely NOISELESS.
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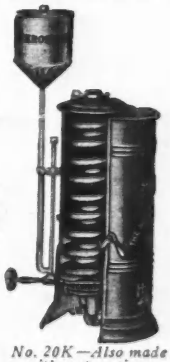

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SHARP'S CLEANOUT WATER HEATER

can help you get this business. Its superior points are many. It is thoroughly cleanable. The cost of fuel is small. A sufficient supply of hot water obtainable at all times. Gives years of satisfactory service.

Write or wire now for detail's concerning Sharp's. You'll find it's a real "business getter."

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There is a good reason why more

Bell Washers

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are used each year by plumbers and manufacturers than any other washer made. It will pay you to investigate.

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Plumbers Specialties

Brass Goods for the Plumbing Trade

Closet Tank and Seat Trimmings, Connected Waste and Overflows, Traps, Supply Pipes, etc.

Any Reliable Jobber can furnish the "Femco" Line from stock

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ADJUSTABLE IRON CLOSET BENDS

PLAIN OR TAPPED

4 in. dia. 12-15-18 in. long

Wolverine F'dry Co.

Detroit, Mich.

Manufacturers of Boiler Stands, Vent Caps, Cesspools, Sink Brackets, Laundry Tub Legs, etc.

open its sixth annual season on Monday evening, October 14th. Two courses, first year and second year, will be conducted, the former consisting of eighteen lectures and the latter twelve. Enrollment for either class will take place on Monday evening, October 7th, at Room 511, World Building, New York City. No particular requirements as to education and mathematics are fixed for those taking the first year course. The various subjects are handled in such a manner as to eliminate the more difficult mathematical calculations. For the advanced class, necessary qualifications are required. The school is under the personal direction of Charles A. Fuller, a consulting engineer of wide experience, who has conducted classes with growing success for the past five seasons. The first class will meet at the above-mentioned address at 7:30 o'clock on Monday evening each week, while the second year class will be in session at 5:45 o'clock the same evenings. G. G. Schmidt is secretary of the school.

The Fentzlaff Engineering Co., of 507 Fifth Avenue, New York City, will install the plumbing and heating work at the new plant of the Bailey Ship Building Co., at Port Jefferson, Long Island.

Kentucky

Louisville and Vicinity.

Although there is no large amount of local business at the present time, plumbers are getting a fair amount of business from out in the state, and the indications are that business this fall will be even better than anticipated. There has been an excellent demand for water supply systems and pumps during the entire summer, and dealers have experienced considerable difficulty in securing supplies enough to fill this demand. The prosperity of the farmer was evidenced recently at a bankers' convention in Louisville. One banker stated that his bank had deposits from farmers to the amount of $1,500,000. This clearly indicates that the farmers are exceptionally prosperous and will, no doubt, spend considerable money in improvements on their homes.

Locally repairs to heating systems are keeping heating contractors fairly busy, and a number of new boilers will no doubt be installed before the cold weather sets in. Owing to the fact that the shortage of gas during the past winter inconvenienced a number of people to a great extent, there has been quite a rush for coal boilers this year.

Plumbers are expecting to get a good deal of work on the new army camps being erected at West Point and Stithton, and this work will in all probability keep a number of them busy for some time to come.

Dedication services were held recently for the first Comfort Station, located in Lincoln Park, Louisville. The building is said to have cost $15,000 and is as complete as any similar Station in the United States. It will be open for the benefit of the public each day from 6 o'clock in the morning until midnight. According to D. B. G. Rose, chairman of the Board of Public Works, there is on foot a plan whereby a comfort station for negroes is to be established.

Other Cities in the State.

The Cynthiana Plumbing & Electrical Co., of Cynthiana, Ky., recently filed a voluntary petition in bankruptcy. The indebtedness is said to aggregate about $3,200 and the stock will invoice around $6,000. Business conditions are given as the cause of the petition, the dearth of building operations and the inability to secure competent

workmen. The firm's affairs have been placed in charge of Judge E. T. King, and it is thought that it will pay out, with something over for the stockholders. J. F. Nooe, one of the chief owners of the business, has resumed his former position with the Kentucky Utilities Co.

The Louisville Water Co. will, in the near future, begin the erection of a number of fountains to replace the old public pumps on the street corners of Louisville. A crusade has been started by the Health Department against the public pumps and a number of them have been found to be dangerous. The new fountains, to be installed by the Water Co., will supply water from the city mains.

George W. Hubley, former superintendent of the Louisville Gas & Electric Co., and more recently with the Engineering Corporation of Philadelphia, has been appointed by Dr. Garfield, of the Federal Fuel Administration, as consulting and operating engineer with the Kentucky Fuel Administration under Wiley B. Bryan. Mr. Hubley will endeavor to reduce consumption of fuel in Kentucky steam plants, and will offer suggestions which should result in purchase and installment of fuel saving devices.

BETTER HEATING.

(Continued from Page 430.)

the size found in it. Yet the fact remained that it was not. The reason was obvious from the start, it was wholly a question of drafts, the incoming cold currents of air from the windows, passing toward the radiator, as shown by the arrows in Fig. 1, could not be avoided by a person sitting in nominal locations in the room.

Fig. 2 shows the location of the radiator, after the change was made; no addition was made in the size, but there was a great change made in the attitude of the owners toward it. You will note by the arrows the direction of travel in the air currents, from the window to the radiator; it can be readily seen that a person would have much difficulty in intercepting them, without actually sitting on the window sills themselves.

In closing, let me then urge a careful consideration of our heating problems, keeping before us the thought of the little things, which make or mar many a good heating plant.

You all know that when a person installs a vacuum, steam or water heating plant, he is getting the best there is in heating science known to-day. Well, then let us give him the best in brains that we have or can attain. Let us be zealous in our effort to give results as near perfection, as it is humanly possible to do; in short, let us strive to measure up to the full stature of the good workman who *never* says: "There, that will do"; but: "There, that is it, try it, and come again, it will last always."

Pawtucket, R. I.—Macomber Bros. have secured the contract for remodeling the heating system in the First Baptist Church, and the plumbing in thirty-two apartments.

"The Prussian military power must not only be beaten, but Germany herself must know and the German people must know that their rulers have outraged the laws of humanity and the Prussian strength cannot protect them from punishment."—Lloyd-George, at Manchester, last week.

ODORLESS TOILET ROOMS
desired by every user of a water closet. Every owner a prospective purchaser. Every sale leads to other plumbing work. Positively the best appliance for the purpose in existence. No germicides, disinfectants or deodorizers. Over 20,000 now in use; satisfaction guaranteed
Write for particulars
SANITARY APPLIANCE CO., Mfrs., Neenah, Wis.

ALLEN FLUX
ALLEN NON ACID SODERING FLUX
Only Flux approved by the National Board of Underwriters.
Safest, strongest, speediest. Our circulars tell why. Put up in Stick, Paste, Liquid or Salts.
Sample Free
L. B. ALLEN CO., Inc., 4526 N. Lincoln St., Chicago

Makes No Noise

A Quiet Pump in Your Home
You can keep Pump noise out of your home by keeping out the kind of a Pump that makes a noise.
The Geo. J. Roberts Co.
Dayton, Ohio, U. S. A.

PORTABLE SHOWERS
SPECIAL PRICES IN DOZEN LOTS
SHOWERS OF ALL DESCRIPTIONS
GOETZ BRASS COMPANY
630 N. FRANKLIN ST. CHICAGO, ILLINOIS

ELECTRIC HOUSE PUMPS Dayton WATER SUPPLY SYSTEMS
Suction Pumps *and* Complete Water Supply Systems
pumping capacities 150 to 1,000 gallons per hour. Efficient Deep Well Pumps with Hyatt Roller Bearings and silent chain drive, pumping capacities 150 to 2,000 gallons per hour. **Write for bulletins and price sheets.**
The Dayton Pump & Manufacturing Co.
DAYTON, OHIO New York, N. Y., 30 E. 42d St.

No. 2A Thermostat
MFG. CO. ROBERTSHAW YOUNGWOOD, PA.
The standard for 30-40 gal. boilers, and single coil heaters or equivalent. Has ¾-in. gas openings.
We Make All Sizes

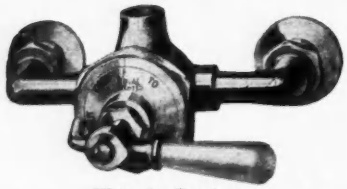
UNCLE SAM has tested our
STANDARD PORTABLE VISE BENCH AND PIPE BENDER
and same has proved satisfactory. HE is now one of the THOUSANDS of satisfied users we have. Drop us a line and we will send you full particulars, or ask your jobber for same.
STANDARD IRON WORKS
508-10 E. 74th Street, New York City

THE ANSWER IS GIVEN
LOOK FOR NATIONAL THE NAME
¶ Why worry trying to decide which particular make of pipe embraces the desired qualities, when the answer is given in an announcement in the October 5th issue?
¶ Watch for it and your pipe questions will be answered.
NATIONAL TUBE COMPANY - Pittsburgh, Pa.

ROYAL

Mixing Valve for Showers

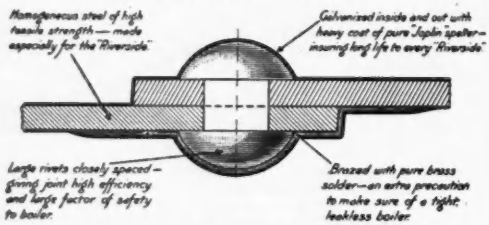
Simple in Operation—Few Working Parts.



Write for Catalogue.

THE ROYAL BRASS MFG. CO. CLEVELAND, OHIO

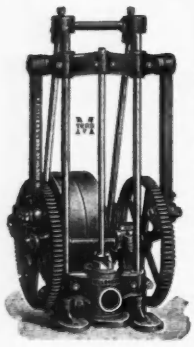
The "Riverside" Riveted and Brazed Seam


Homogeneous steel of high tensile strength—made especially for the "Riverside"
Galvanized inside and out with heavy coat of pure Joplin spelter—insuring long life to every "Riverside"
Large rivets closely spaced—giving joint high efficiency and large factor of safety to boiler.
Brazed with pure brass solder—an extra precaution to make sure of a tight leakless boiler.

The Strongest and Tightest Seam on any Range Boiler

Riverside Boiler Works, Inc.

Cambridgeport, Mass.



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POWER PUMPS

Here is a line of simplified and easy to install Power Pumps and Working Heads sold and distributed largely by dealers, plumbers and pump men. Built in many styles and sizes, successful, extensively used and sold everywhere. If you sell pumps you are interested in this line. Catalog and latest prices to the trade.

Write today.

F. E. MYERS & BRO.

ASHLAND, OHIO

Tank Fittings of Quality

1856 **"McSHANE"** 1918

The ORIGINAL Compound Lever Ball Cock, Elevated, Low-Down, Top and Bottom Supply. Tank Levers and Valves.

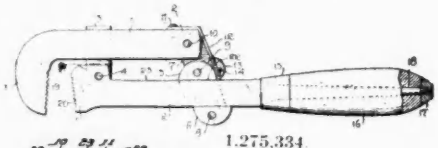
McSHANE BELL FOUNDRY CO.

BALTIMORE, MARYLAND

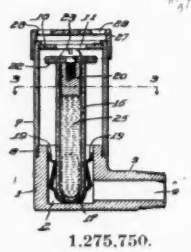
Patents

Heating Department.

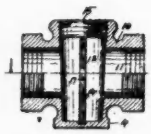
1,275,334. Pipe-Wrench. Ben Watts, Jarbidge, Nev., assignor of forty-nine one-hundredths to Warren P. Godfrey, Jarbidge, Nev. A pipe wrench comprising a shank having a fixed jaw at one end, a guide loop pivotally engaged with the shank adjacent the jaw and extending laterally therefrom, a second shank disposed through the guide loop and overlapping an edge face of the first named shank, said second named shank being provided with the jaw overlying the fixed jaw, a member pivotally engaged with the free end portion of the second shank and extending across the first named shank, dogs pivotally engaged with said member and coacting with the opposite edge faces of the shank, each of said dogs being substantially semi-circular in form and having its straight face engageable with an edge face of the first named shank, one of said dogs and the coacting edge face of the first named shank being provided with teeth adapted to interlock, a pin carried by the member and overlying the toothed face of the first named shank and rearwardly of the dog coacting with said face, and a flat spring carried by the second named shank and contacting with the pin carried by the member for normally maintaining the straight faces of the dogs in contact with the coacting edge faces of the first named shank.



1,275,334.



1,275,750.



1,275,852.

1,275,750. Air-Valve for Radiators. Van Vechton Riesberg, Philadelphia, Pa., assignor of one-half to Frank H. Dougherty, Philadelphia, Pa. In a device of the class described, the combination of an outer casing adapted to be secured to a radiator and having an opening adjacent its upper extremity for permitting the escape of air from said radiator, an open ended tube within said casing maintained in operative fixed relation with said casing, said tube adapted to contain an expansible liquid, a piston slidable in said tube and a floating valve operated by said piston for controlling the opening in said casing in conformity with the height of the liquid in said tube, said valve adapted to rest on and be directly supported by the tube when in position to maintain open the opening in said casing.

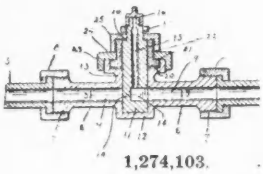
1,275,852. Heating System. Jesse C. Coogan, Milwaukee, Wis. A fitting for a radiator inlet pipe of a circulatory heating system, comprising a casing posi-

tioned at a point inaccessible to the user provided with an inlet and an outlet and having an intermediate chamber provided with a removable plate partition having a port of non-variable predetermined capacity therethrough adapted for fluid delivery from the inlet to the outlet, said casing having an opening through which the partition may be inserted into said chamber, and a plug normally closing said casing opening and the passage around said partition.

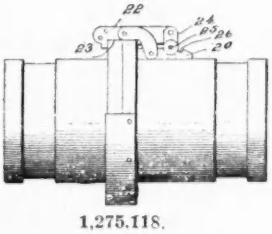
Plumbing Department.

1,274,103. Device for Cleaning Pipes. Frank Story, Seattle, Wash. A device of the class described comprising a valve body having an axial passageway and provided with a cylindrical valve chamber of larger diameter than said passageway and arranged at right angles thereto; and a cylindrical valve rotatably disposed in said valve chamber, said valve having a recess in alinement with said passageway, said recess being equal to the diameter of said passageway and leaving a segment that is entirely out of alinement with said passageway when said valve is opened and which entirely closes said passageway when said valve is closed.

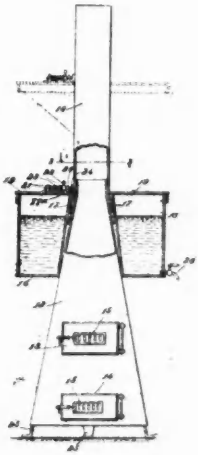
1,275,118. Pipe Coupling. John F. Anderson, Norway, Iowa. A hose coupling including a pair of members formed with abutting flanges, a pivoted member carried by one of the members and formed with a notch for the reception of the said flanges, a notched member mounted adjacent said pivoted member, and a locking means carried by the pivoted member for engagement in said notches.



1,274,103.



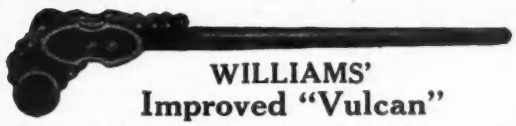
1,275,118.



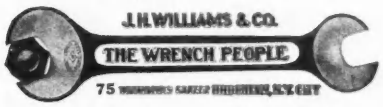
1,275,193

1,275,193. Water-Heater. Francis L. Alsobrook, Alamo, Tenn. The combination with a suitable stove, of an annular water heating vessel supported thereon, a smoke pipe fitted to the upper part of said stove, said vessel having a removable cover provided with a spring-pressed retaining device acting against said smoke pipe and thus serving to frictionally retain said cover in position, to close said vessel, or to hold said cover in an elevated position on said smoke pipe when access to said vessel is desired.

1,275,293. Water-Heater. Henry W. O'Dowd, Jersey City, N. J., assignor to William Crane Company, a Corporation of New York. A water heater including in combination a vertical coil, a casing therefor, inlet and outlet pipes for said coil axially projecting from the opposite ends of said casing, a burner positioned in the lower part of the casing so as to throw heat around the



WILLIAMS'
Improved "Vulcan"
Drop-Forged Chain Pipe Wrench
With Proof-Tested Chain
Williams' Chain Wrenches have been standard for nearly half a century.



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Eagle All Lead Roof Flange

LEAD PIPE — Length, 6 Inches — Diameter, 4⅛ Inches
SIZE OF APRON — 15 Inches Square
Made in Angles, 45 deg., 22½ deg. and Straight.

No Caulking To Be Done
Joints Lead-burned — No Solder Used
Flexible Adjustable Economical
Write for Circular and Prices.
Manufactured only by
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If Your JOBBER Cannot Supply You With Our Goods, Send Your Orders To Us Direct

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For
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Floor and Ceiling Plates

Substantially made of heavy stamped steel. May be cut to fit any conditions. Adjustable. Unbreakable.

Hinge and catch new in construction and invisible when plate is closed.

Nickeled on copper. Highly polished. Sizes, ⅛-in. to 3-in.

Write for prices and details.

W. A. RUSSELL & COMPANY
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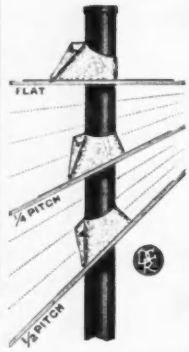

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The Overton

Adjustable Flashings

So easily adjusted
So easy to install
Hugs any pipe water-tight
Your dealer has them in stock
Write for circular

Made of Galvanized and Copper Materials

Manufactured by

Duluth Corrugating & Roofing Co.
DULUTH, MINN.

Just Clean Sweep Traps—

The Knowledge we have gained, the Judgment we have developed, the Business Foresight in production of the Best Trap in the World is all yours for the asking.

Just mention Clean Sweep Traps.

You will get them.

The Government uses them, and everybody else, nearly.

In either Lead or Brass.

Detroit Sanitary Supply Co.

Sole Manufacturers

Second Ave. and Antoinette St.
DETROIT MICHIGAN

TRY BLUE SEAL
AT OUR EXPENSE

This libera... offer is for plumbers who have never used BLUE SEAL. It gives an opportunity to try at our expense the original Money Back Drain Pipe Solvent.

Cut out this advertisement, mail it direct to us with your own address—and your jobber's. We will then send you, transportation charges prepaid, six one dollar cans (2 lbs.) BLUE SEAL

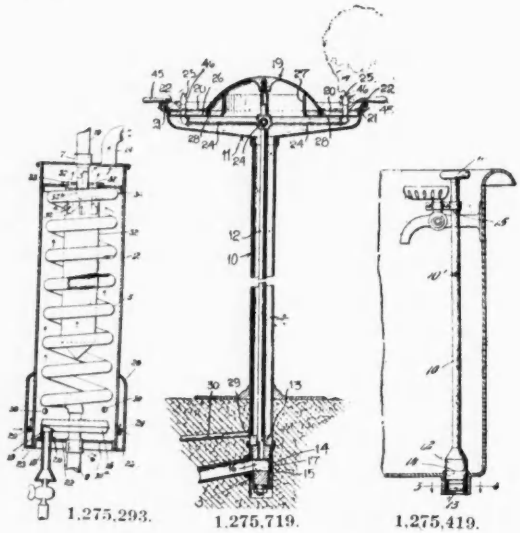
DRAIN PIPE SOLVENT

Use these six cans according to direction to clear waste and drain pipe stoppages. If the Solvent does all we claim for it you are to send us $3.60 (special price for plumbers) within ninety days. If not the trial costs you nothing.

10,000 plumbers now use Blue Seal. Over 300 jobbers stock, sell and recommend it. If you haven't used it, this is your opportunity

BLUE SEAL CHEMICAL CO.
417 E. 18th St New York

inlet pipe, a diaphragm above the coil completely separating it by an intervening space from the casing top, a tubular deflector in the center of said diaphragm leading the products of combustion from said burner against the outlet pipe centrally of the space between the casing top and the diaphragm, and a flue having a peripheral communication with said space at a point remote from the outlet pipe.



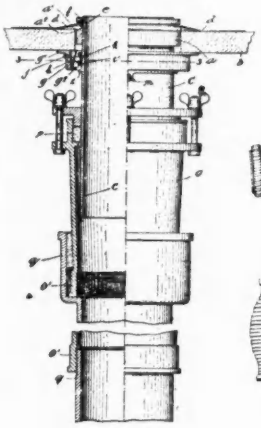
1,275,293. 1,275,719. 1,275,419.

1,275,719. Bubbler Drinking-Fountain. Charles T. Miller, Macon, Ga. A drinking fountain comprising a waste pipe forming a standard, a bowl supported upon the upper end of the waste pipe and draining thereinto, a supply pipe extending upward centrally through the waste pipe and rotatably mounted therein and having a discharge nozzle, a rotatable valve carried by and rotatable with the supply pipe and disposed at the lower end of the waste pipe and having a vertical bore discharging into the supply pipe, and a transverse bore coacting with a receiving opening in the lower end of the discharge pipe whereby when the supply pipe is rotated in one direction, water will be admitted thereto and when rotated in the opposite direction, water will be cut off, and a drain pipe extending from the waste pipe just above said valve, the valve fitting the lower end of the waste pipe.

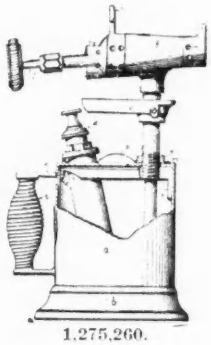
1,275,419. Drain-Pipe Plug. William W. Good and Fred H. Buckman, Chicago, Ill. The combination with a vertically movable outlet valve in a bath tub or the like, and a fixture disposed within said tub above the valve; of a rod rising from said plug and having a radial pin, a pair of complementary bracket sections whereof each has two substantially semi-circular portions and two straight portions at opposite sides of one of them, and bolts through the straight portions of said sections whereby the intervening semi-circular portions are clamped to opposite sides of said fixture and the remaining semi-circular portions are caused to loosely surround said rod, leaving an opening between their extremities through which said pin may pass, as described.

1,275,922. Roof Connection for Drain-Pipes. Charles L. Holt, Lawrence, Mass., assignor to Holt Roof Connection Co., Lawrence, Mass., a Corporation of Massachusetts. A roof connection comprising a roof-collar, adapted to be inserted in the roof opening and having a flange adapted to rest on the upper side of the roof, to hold the collar against downward movement therein, a

pipe rigidly connected to said collar, a clamping collar, for the under side of the roof, of substantially greater internal diameter than the external diameter of the pipe and adjustable on the pipe to different positions and inclinations relative thereto, a locking wedge adapted to be forced upwardly in the space between said pipe and clamping collar, to hold the latter against downward movement on the pipe from the position to which it may be adjusted, and a yielding connection for the lower end of said pipe.



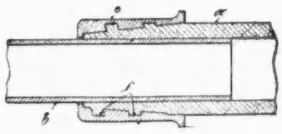
1,275,922



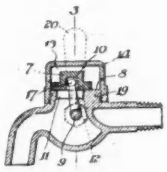
1,275,260.

1,275,260. Torch. Edward J. Horn, Royal Oak, and Frederick Lindhorst, Detroit, Mich., assignors to Detroit Torch & Manufacturing Co., Detroit, Mich., a Corporation of Michigan. In a torch for the purpose specified, the combination of a tubular reservoir, a stem passing through the top of the reservoir and having a joint with the top of the reservoir in which is included a filled connection, and a reinforcing bridge having a beam portion adapted to lie under the top and a lip portion adapted to extend along the tubular side wall of the reservoir, for the purpose specified.

1,275,996. Removable Coupling-Sleeve. Edmond Jules François Audemars, Paris, France. A detachable pipe coupling for detachably assembling a tube of hard material and a tube of elastic material consisting in the combination of a tube of hard material, a tube of elastic material whose end is fitted upon the end of the tube of hard material, and a coupler with an internal conical surface designed to be fitted upon the end of the tube of elastic material and provided with sunken portions upon the internal conical surface.



1,275,996.



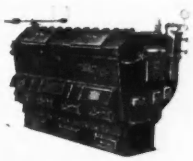
1,275,920.

1,275,920. Valve. Frederick B. Hibbard, Philadelphia, Pa. A faucet comprising a chambered body provided with inlet and discharge ports and a flat valve seat for the discharge port, a sliding valve member therefor, mechanical means engaging the middle portion of the valve for actuating the same to open and close the discharge port, and means whereby the passage of fluid from said inlet to the discharge causes a rotative movement of said valve member.

Economical Heating—A sufficient reason why you should install

PIERCE DOWN DRAFT HEATING BOILERS

For Steam, Water, Vapor, Vacuum, Heating



There are other reasons, too:

1. Magazine Feed.
2. Down Draft.
3. Smoke Consuming.
4. 25% Fuel Expense Saved.
5. 50% Less Attention.
6. All Cast Iron.

Manufactured only by

PIERCE, BUTLER & PIERCE MANUFACTURING CORP.

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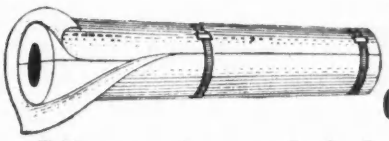

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Magnesia and Asbestos

All Kinds

Our free art sign will help your sales. Write today for it, prices and samples.

Acme Asbestos Covering & Supply Co.
407 N. Ada Street, Chicago

Fig. C25

Perfect Temperature Control with the MILWAUKEE Shower Bath

Nickel plated shower head. Concealed mixing valve with china handle and nickel plated dial plate.

Built for service. Ask your jobber for the Milwaukee Shower Bath.

Made by Milwaukee Flush Valve Company Milwaukee, Wisconsin

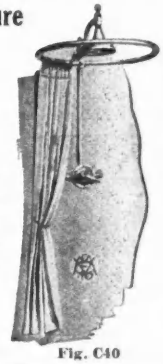

Fig. C40

FOR lasting quality and true capacity use "KOVEN" Pure Iron, Double Row Riveted, Galvanized Range Boilers, or NACO Galvanized Range Boilers made of open hearth steel. These boilers may be bought of jobbers everywhere.

L. O. KOVEN & BRO.
50 CLIFF STREET NEW YORK

Classified Advertisements

The charge for advertisements under this heading is $1.00 for 25 words or less, including heading and address; 4 cents each for additional words. To insure insertion, copy and remittance should reach us by Wednesday morning.

Situations Open

WANTED—MEN TO SELL RADIATION, boilers and other heating goods on commission basis in Eastern Pennsylvania, Ohio, Maryland and West Virginia. Address 2554, care "Domestic Engineering," Chicago. 8-31-4

WANTED—HEATING AND VENTILATING engineer. One with experience. State age, salary desired, whether married and where last employed. Haynes Selling Co., 1711 Sansom Street, Philadelphia, Pa. 9-14 tf

For Sale.

FOR SALE—NO. 201 RETURN FLUE Portable Kewanee Boiler, used two seasons, in first class condition. Crookston Plumbing & Heating Co., Crookston, Minn. 9-21; 28

FOR SALE—ONE COMPLETE SET OF tinner's tools as good as new. Only used five years on light work. Will be sold at a sacrifice, as we have no further use for them. Write F. F. MacNichol & Co., Oshkosh, Wis. 9-7-14-21

FOR SALE—PLUMBING, HEATING, sheet metal and store business in second class city. Located about fifty miles out of Pittsburgh. Established eleven years. Doing fine prosperous business. Good reasons for selling. Address 2553, care "Domestic Engineering," Chicago. 8-31-5

Steam Air Compressor

at a bargain

FOR SALE—

BLAKE-KNOWLES

steam air compressor. Size 12x 18x18. The Hartford Times, Hartford, Conn. 9-14; 21

Government Proposals

Treasury Department, Supervising Architect's Office, Washington, D. C., September 7, 1918.—Sealed proposals will be opened in this office at 3 p. m., October 4, 1918, for additions to Plumbing, etc., in the United States Marine Hospital, Cleveland, Ohio, in accordance wtih the specification and drawing, copies of which may be had at this office or at the office of the Custodian, Cleveland, Ohio, in the discretion of the Supervising Architect, Jas. A. Wetmore, Acting Supervising Architect. 9-14; 21

Miscellaneous.

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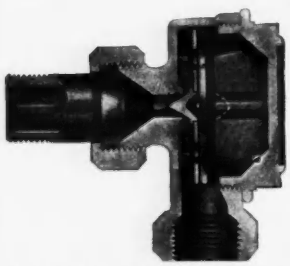

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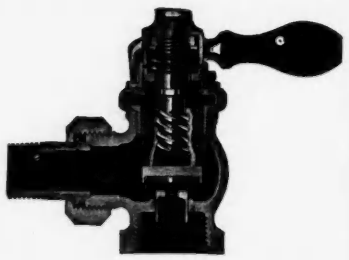

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